

GEOGRAPHY TEACHERS' ATTITUDE AND PRACTICE IN SECONDARY SCHOOLS IN VENDA

A thesis submitted to the University of Cape Town
in fulfilment of the requirements
for the degree of

MASTER OF EDUCATION

in the Faculty of Education

by

AWELANI MELVIN RAMBUDA

B.A. B.Ed. U.E.D. (UNIN)

January 1994



Faculty of Education

University of Cape Town

The University of Cape Town has been given
the right to reproduce this thesis in whole
or in part. Copyright is held by the author.

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

ACKNOWLEDGEMENTS

I would like to express my appreciation to my supervisor, Mr Kevin Winter, for his encouragement, guidance, patience, constructive ideas and suggestions.

I also want to express my sincere thanks to the 253 geography teachers who took the time and trouble to complete the questionnaire sent to them. Special words of thanks are due to the 30 geography teachers who allowed the researcher to invade the privacy of their classrooms. Without their willing co-operation the study could not have been undertaken.

I also acknowledge gratefully the encouragement and financial assistance of my parents Julius and Elisabeth. Without their assistance the research could not have been undertaken.

Finally, I wish to thank my uncle, Mr L.T. Nefale, for his encouragement and interest in the study. I am also grateful to my brother Rudzani, my sisters Tshililo and Masala, and to my nieces Avhathanyi and Ama for their patience and understanding while this study was in progress.

ABSTRACT

Since the 1960s the discipline of geography has changed its emphasis from the descriptive and scientific approach to a holistic one. The subject now emphasizes the understanding of concepts, the development of skills, and the clarification of values and attitudes. These changes have necessitated a change in teaching methodologies. This study considers teaching methodologies and the mechanisms which underpin teaching/learning interactions as an important means of improving geography education in the classroom. The study describes how the Flanders' Interaction Analysis Categories model can be used as an action research tool. The research suggests that Flanders' Interaction Analysis can be used as a diagnostic tool to influence teaching styles to become more interactive in reality.

The study establishes the perceived and actual teaching styles used by geography teachers in Venda. The results of the study reflect the disparities between perceived and the actual teaching styles. The study recommends that secondary school geography teachers should be encouraged to undertake action research as a way of reflecting on their teaching style. Teacher training institutions and inservice training centres should offer courses on how to introduce and administer interactive teaching styles.

TABLE OF CONTENTS

Page

CHAPTER ONE

INTRODUCTION	1
1.1 General Background	1
1.2 Changing teacher behaviour	3
1.3 Research Outline	3
1.3.1 The problem investigated in this study	5
1.3.1.1 Aims and Objectives	5
1.3.1.2 Questions to be investigated	5
1.3.1.3 Hypothesis	6
1.3.1.4 Research Methodology	6
1.4 Definitions and Concepts	7
1.5 Chapter Outline	8

CHAPTER TWO

LITERATURE REVIEW	9
2.1 Introduction	9
2.2 The Nature of Geography Education	10
2.3 The Nature of Geography Education in South Africa	13
2.3.1 The influence of the British Empire on South African Geography Education	13

2.3.2	The influence of the Apartheid Era on Geography	
	Education	15
2.3.3	The syllabi	16
2.3.3.1	The influence of the British Empire	
	and the geography syllabi	16
2.3.3.2	The syllabus change since the 1960s	17
2.3.4	Constraints on teaching styles	22
2.3.5	The educational context of Venda and South Africa	23
2.3.5.1	Inequality in Education	27
2.3.6	Teacher Empowerment	29
2.3.7	Flanders Interaction Analysis Categories (FIAC) model	31
2.4	Summary	35

CHAPTER THREE

RESEARCH METHODOLOGY	36
3.1 Introduction	36
3.2 The questionnaire	36
3.3 Observation	40
3.3.1 The Purpose of Lesson Observations	40
3.3.2 The Training of the Observer	41
3.3.3 Direct observation	42
3.4 The Flanders Interaction Analysis Categories model as a research	
instrument	43
3.4.1 The use of the FIAC model	43
3.4.2 The use of the Flanders System as an analytical tool	44

3.5	The perceived teaching style and the actual teaching style	45
3.6	Limitations of the study	46
3.7	The potential significance of the study	47
3.8	Methods of analysis	47
3.8.1	The questionnaire	47
3.8.2	The Flanders system	48
3.9	Summary	49

CHAPTER FOUR

DATA PRESENTATION AND ANALYSES	50
4.1 Introduction	50
4.2 Questionnaire Analysis	50
4.3 The context of the geography classroom	52
4.3.1 The geography classroom seating arrangement	52
4.3.2 Group work as a teaching strategy	52
4.4 Classroom organisation	53
4.5 Organisation of the geography curriculum	54
4.5.1 Fieldwork	54
4.5.2 The use of the library as part of the geography lesson	55
4.5.3 The use of teaching resources	55
4.6 Interaction analysis	57
4.6.1 The perceived interactive teaching style based on Flanders Interactive Analysis.	58

4.6.1.1	The perceived use of the FIAC according to gender, qualifications, teaching level and teaching experience	60
4.7	Discipline	62
4.8	Teaching methods in Geography Education	64
4.9	Difficulties developing an interactive teaching style	65
4.9.1	Medium of instruction	66
4.9.2	Geography teacher training	66
4.9.3	Time constraints	67
4.9.4	Student reluctance and unreadiness	67
4.9.5	Authorities	68
4.9.6	Shortage of facilities	68
4.9.7	Job security	69
4.10	Summary	70
4.11	The actual interactive teaching style of secondary school geography teachers	70
4.11.1	Introduction	70
4.11.2	Talk in the classroom	72
4.11.2.1	The nature of secondary school geography teacher talk	72
4.11.1.2	The nature of secondary school geography student talk	77
4.12	Differences between perceived and actual teaching styles of secondary school geography teachers	82
4.13	The principal components of the study	83
4.14	Summary	84

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS	86
5.1 Introduction	86
5.2 The nature of geography education	87
5.3 The perceived teaching style	87
5.4 The actual teaching style	89
5.5 Recommendations	89
5.7 Conclusion	90

LIST OF REFERENCES	92
---------------------------------	----

APPENDICES	111
-------------------------	-----

1 Joint Matriculation Board - Introduction to the syllabus 1983	113
2 1987 DET Syllabus for Geography Std 10 (Higher Grade)	125
3 Letter of approval from Venda Education Department	141
4 Geography Teacher Questionnaire	143
5 FIAC observation schedule	153
6 1973 DET Syllabus for Geography Standards 9 and 10 (Higher and Standards Grade) Reprinted 1981	155
7 A letter for permission to undertake research in secondary schools in Venda	179
8 The FIAC model matrix	181
9 A letter for permission to observe Geography lessons in secondary schools in Venda	183

LIST OF FIGURES

Figure 2.1. The Structure of the Venda Education Department. 25

Figure 2.2. Schematic Representation of the Education System in South Africa in
1991. 25

Figure 2.3 Summary of Flanders Verbal Interaction Analysis Categories
model. 32

LIST OF TABLES

Table 4.1	Summary of the Personal Data in Percentage.	51
Table 4.2	The perceived use of teaching resources expressed as percentage. .	56
Table 4.3.	The perceived use of the Flanders Interaction Analysis Categories expressed as percentage.	59
Table 4.4	The perceived use of the FIAC ranked and expressed as a percentage.	59
Table 4.5	The perceived use of FIAC according to Gender and expressed as percentage.	61
Table 4.6	The perceived use of disciplinary techniques expressed as percentage.	62
Table 4.7	The perceived use of disciplinary techniques by ranked order expressed as percentage.	63
Table 4.8	Teacher attitudes towards various interactive teaching styles.	64
Table 4.9	Summary matrix showing column totals and percentages.	71
Table 4.10	The total amount of teacher talk that fall in each category of teacher talk expressed as percentage.	72
Table 4.11	The content cross.	74
Table 4.12	Extended indirect influence.	75
Table 4.13	Extended direct influence.	76
Table 4.14	Student Talk Following Teacher Talk.	78
Table 4.15	Teacher Response to Student Comments.	79

Table 4.19 Steady - State Cells 81

Table 4.17 The differences between the perceived and the actual teaching
 styles. 82

CHAPTER ONE

INTRODUCTION

1.1 General Background

Since the 1960s secondary school geography education in western countries has changed from a description of regions to a subject which constructs laws, theories and principles concerned with the spatial aspects of human-environment relations (Graves 1982). The change in emphasis has been accompanied by changes in teaching and learning methods (Hall 1984, Huckle 1983, Tidswell 1990). However, it is argued that in secondary school geography in South Africa, the changes in the nature of geography education have not been accompanied by changes in teacher behaviour and learning methods (Ballantyne 1986, Ledger 1978, Levy 1984, Magi 1981). Yet very little research has been done on ways to improve geography teacher practice in general and the teaching of geography in 'black' secondary schools in particular. Limited, if any, attempts have been made to gather data through direct observation and recording of classroom events. Geography researchers such as Ballantyne (1986), Ledger (1978), Magi (1981), Mniki (1987), van der Merwe (1982) and others, neglected the direct observation of teachers and students engaging in the learning process. Stubbs and Delamont (1976) argue that research concerned with teaching and learning should attempt to study directly what happens between teacher and student in the classroom. Furthermore, it is argued that teachers are reluctant to change their teaching style if they do not know how to make the necessary change. This study suggests how teachers can develop and change their

teaching practices. The study endeavours to provide secondary school geography teachers with a methodology for creating an environment for change. It is argued that the nature of teaching behaviour can contribute towards the provision of learning opportunities in the classroom.

According to Mniki (1987), the teacher is one of the factors contributing to a high failure rate in geography matriculants in 'black' schools, thus emphasising the need for changing teacher practice, amongst other factors. This study suggests that the use of Flanders' Interaction Analysis Categories model, as an action research tool, " ... may improve the quality of teaching ... because it would reduce the gap between intent and action - with a built-in safeguard that causes the shift to be in the direction of more effective teaching" (Flanders 1970 p5). Furthermore, it is argued in this study that interactive teaching could ensure that geography teachers adopt the teaching approaches as recommended by the 1983 geography syllabus (Appendix 1) which was implemented by the Department of Education and Training (DET) on January 1987 (Appendix 2). According to the DET geography syllabus, "...teachers should make every effort to create effective learning experiences for their pupils. Whatever teaching approach is used, it is essential to develop a sense of reality in the teaching situation" (DET Syllabus for Geography 1987 p6). Furthermore, the syllabus recommends that teachers should use a problem-solving teaching approach and that students "...should be trained in the scientific method of inquiry (statement of hypothesis), followed by the collection and classification of information, and finally, the testing of the hypothesis" (DET Syllabus for Geography 1987 p7).

1.2 Changing teacher behaviour

Ballantyne (1986) and Thorpe (1991) maintain that geography, as a school subject, will cease to be popular in a future South Africa as in the case of Namibia (Thorpe 1991). In Britain, the popularity of geography as a school subject is due partly to the way it is taught (Binns 1992). If geography, as a school subject, is to maintain its popularity in South Africa, then the way in which it is taught in our schools could be crucial to securing its position in the curriculum. Ballantyne (1990) believes that researchers who wish to change the nature of secondary school geography education in the classroom should consider the teacher as the focus for change. He suggests that before attempting to change the nature of geography education in the classroom, it is important to identify and analyze teacher attitudes and practice. Therefore, this study is an attempt to identify and analyze geography teacher attitudes and practices in the Venda region of South Africa. The study explores the idea that teachers should re-assess their teaching methods to ensure that geography education is stimulating and interesting to the students, and at the same time, adopt a teaching practice which encourages student development.

1.3 Research Outline

This study was undertaken in the Venda region, a so-called 'self-governing state' of South Africa. The Republic of South Africa consists of four provinces, namely, Transvaal, Orange Free State, Natal and Cape Province; four 'independent' homelands, namely Transkei, Bophuthatswana, Venda and Ciskei; and six self governing states, namely,

Gazankulu, Lebowa, Kangwane, Kwandebele, Kwazulu and Qwaqwa. The total South Africa's population is approximately 39,4 million of which 568 200 live in the Venda region (SAIRR, 1992/1993). The Republic of Venda was granted 'independence' by the South African government on 13 September 1979. The region lies south of Zimbabwe, west of the Kruger National Park and Gazankulu, and east of Lebowa. To the south, south-west and west there are no natural boundaries, but the country abuts on the Transvaal districts of Soutpansberg (in the south-west) and Messina (north-west). The total surface area of Venda is 650 200 ha or 6 500 square kilometre (The Republic of Venda 1979). Its population density is 83,4 people per square kilometre (SAIRR 1992/1993).

Geography education in Venda is a compulsory subject up to and including the standard 7 level. The syllabus is identical to that which is followed in South Africa and therefore it is underpinned by the philosophy of Christian National Education (CNE). The basic principles of the CNE are:

(a) that the religious creed of the Afrikaner is christian in its basis, character, aim and spirit;

(b) that education must be national in character, aim and spirit and that the Afrikaner language, history and culture must permeate the pupil's education;

(c) that the education of the child is primarily the duty of parents together with the church, state and school. Parents are responsible for the physical, intellectual and spiritual education of the child; the church supervises the spiritual education of the child together with the parents; the state ensures that all citizens receive education and is concerned with the establishment, maintenance and control of schools; and that schools are to educate the child in the spirit and background of the home.

(Ballantyne 1986 p9)

1.3.1 The problem investigated in this study

The researcher's experience and the review of the literature suggest that the transmission of knowledge from the teacher to student dominates the learning experience. It has already been argued that this approach to teaching is inappropriate given the more recent changes in the nature of geography education both internationally and locally.

1.3.1.1 Aims and Objectives

The purpose of this study is to examine various teaching styles using Flanders Interactive Analysis as a diagnostic tool.

The objectives of the study are :

- (a) to establish the perceived teaching styles used by geography teachers in Venda;
- (b) to examine the actual interactive teaching styles using Flanders Interactive Analysis; and
- (c) to describe and explain any differences between perceived and actual teaching styles.

1.3.1.2 Questions to be investigated

- (a) What are the perceived teaching styles?
- (b) How does the actual teaching styles compare with the perceived teaching style?

1.3.1.3 Hypothesis

The perceived teaching styles of secondary school teachers of geography conflicts with what is actually happening in the classroom.

1.3.1.4 Research Methodology

The research was undertaken in the Venda region. The Venda Education Department forms part of the nineteen education administration systems of South Africa. The study was given the approval of the Venda Education Department (Appendix 3).

Two research instruments were used to gather data :

- (a) A questionnaire was delivered to 500 geography teachers in secondary schools in October and November 1992, with a return of 50,6 percent. The questionnaire requested teachers to respond to questions relating to their perceived teaching styles (Appendix 4).
- (b) Information on interactive teaching styles was gathered using the Flanders Interactive Analysis model (Figure 2.3). Thirty teachers conducting teaching lessons were observed by the researcher in February 1993. An observation schedule was used as a mechanism for recording the information (Appendix 5). Lesson observations took 22 days to complete. The model was used to audit the verbal interactions between teachers and students. The information enabled the researcher to analyze the actual practice of geography teachers. The classroom interaction was recorded by hand and also taped on a good quality tape recorder to enable further checking and cross referencing.

1.4 Definitions and Concepts

(a) Teaching methods

Teaching methods incorporate the many and varied ways in which teachers co-ordinate their classes, impart knowledge to their students and use teaching media to accelerate student learning (Rowntree 1981).

(b) Teacher practice

Teacher practice is the action performed by the teacher during the teaching-learning process (Denscombe 1982).

(c) Teaching style

Teaching style is related to the kinds of bonds teachers establish with their students and to the social climate which teachers develop in the classroom (Page and Thomas 1977, Rowntree 1981).

(d) Interactive analysis

Interactive analysis is an approach involving an efficient recording of how teachers and students react to one another in the learning process (Rowntree 1981, Hills 1982). It is useful in the measurement and interpretation of teaching styles.

1.5 Chapter Outline

Chapter 2 describes the South African educational context and highlights some important influences on the nature of secondary school geography education. Action research is reviewed as a research technique which can contribute towards changing teacher behaviour. The Flanders Interaction Analysis Categories (FIAC) model, as an action research process, is described as a tool for changing teacher behaviour in that it enables teachers to reflect on their teaching style. Chapter 3 deals exclusively with the research methodology, while Chapter 4 presents the research data concerning the perceived teaching styles used by geography teachers in the Venda region, the difficulties geography teachers experience in developing an interactive teaching style and an account of the actual teaching styles and practices obtained from classroom observations. Chapter 5 concludes and provides recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter 2 reviews the literature concerning the nature of secondary school geography education with particular emphasis on South African secondary school geography. The educational context in South Africa and Venda is examined and the possible influences on the nature of geography education are described. The discussion continues with the focus on action research as a tool for teacher empowerment and the use of Flanders Interaction Analysis Categories (FIAC) as a diagnostic instrument for understanding teacher behaviour in the classroom. FIAC is described as a tool for changing teacher behaviour on the assumption that it enables teachers to reflect objectively on their teaching style and practice. It helps teachers to clarify the nature of the classroom interaction and to quantify the kinds of the interaction taking place. Furthermore, it is suggested that regular use of the FIAC model could contribute toward changing the familiar teacher directed approach, that is one in which the teacher controls the dialogue, to an approach which is described as indirect teacher behaviour, an approach which could lead to an increase in student talk in the classroom (Flanders 1970).

2.2 The Nature of Geography Education

In general, the nature of geography education has shifted from the 'capes and bays' approach of the pre-1960s to an approach which emphasizes the understanding of concepts, the development of skills and the clarification of values and attitudes (Bailey and Binns 1987, Boden 1976, Graves 1984a, Johnston 1985, Ledger 1978, Tidswell 1990). In countries such as the United States of America, France and the United Kingdom, the 'capes and bays' approach was prevalent during the pre-1960s period because geographical education was viewed as a subject which provided explanatory descriptions of landscapes (Graves 1984a). The pre-1960's period was characterised by four traditions of geography, namely the spatial, regional studies, man-land interrelations and earth sciences (Pattison 1963). Students were compelled to commit to memory a highly specialised and descriptive content. It has been argued that geographical education was too factual and that it provided a burden to the students' memory and interests, and as a consequence geography was shunned by many schools in the United Kingdom (Graves 1984a). Since the 1960s many innovators, particularly in the United Kingdom, have developed a more thought-provoking and challenging geographical content. They have advocated a geographical content which challenges students intellectually and which contributes towards the development of students' attitudes and values (Joseph 1985, Thomas 1973, Tidswell 1990).

Since the 1960s the nature of geographical education has changed from a subject which described and interpreted cultural and physical phenomena of the world, to a subject which places more emphasis on theory, particularly that which relates to processes,

spatial analysis, deductive methods and quantitative techniques (Pinchemel 1982). Thus geography education became more scientific in its approach to the description and explanation of location (FitzGerald 1974). Scientific methods of analysis and explanation, such as a systems approach, hypothesis testing and predictions have characterised the nature of geography education since the 1960s (van der Merwe 1982). These methods of analysis enable students to act upon evidence and to make decisions based on a scientific understanding of reality. During the 1970s, there was increasing concern for objectivism and content which involved a rigorous understanding of the world (Boden 1976, FitzGerald 1973).

The 1970s also saw the emergence of geographical phenomenology (Magi 1991). According to this school of thought, "...geographical knowledge can also be acquired through experience, intuition, introspection and behavioural procedures. It emphasizes man-land relationships by focusing on human experience and human actions, memories and perception" (Magi 1991 p5). As a result of these changes it can be argued that "...the geographer's task is no longer that of discovering a new land, of naming a peak, of listing the nations and empires of this earth; it is to understand how human societies can solve the many problems of spatial organization posed by the peopling of the earth and its development" (Pinchemel 1982 p4). By implication, this approach should encourage geography teachers to adopt teaching strategies which develop students' ability to think logically and rationally, and to provide opportunities for critical thinking (Cox 1988, Huckle 1983).

Robinson (1989) suggested the use of interactive teaching methods to encourage students to learn appropriate knowledge, skills, values and attitudes which could contribute constructively towards improving human and environmental relationships. Huckle (1980) and others suggest that geographical education can contribute towards the realisation and clarification of social values and that this could be developed especially through interactive teaching approaches such as problem solving, discovery methods and creative activity (Joseph 1985, Ledger 1978, Maye 1984). These approaches stimulate students' interest and enable the learner to interpret and apply knowledge, skills and values to environmental issues and problems.

These rapid changes in the nature of geography education in western countries, especially in the UK, have had an important influence upon geography education in South Africa (Ballantyne 1986, Davies 1987, van der Merwe 1982, Wesso and Parnell 1992). Van der Merwe (1982) writes, "... when one looks at the development of geography in schools in the U.K. since 1900, there appears to be a remarkable resemblance to geography teaching in South Africa" (van der Merwe 1982 p27). Yet it could be argued that the practice of geography teachers differs substantially from countries such as Britain. The available teaching resources and the number of students per teacher are just two elements which are likely to account for these differences.

2.3 The Nature of Geography Education in South Africa

South Africa was a British colony from 1820 to 1961 (Garson 1976). Geography education taught in South African schools followed that of the mother country. South African geography education was committed to the British empire and was under the British influence (Ballantyne 1986, van der Merwe 1992, Wesso 1992, Wesso and Parnell 1992). As the dominant ideas and ideologies held within South Africa changed, so the nature of geography education also changed. A geography which endorsed apartheid, emerged as a supporter of Afrikaner ideologies after the ruling party came to power in 1948 (Wesso and Parnell 1992).

2.3.1 The influence of the British Empire on South African Geography Education

In South Africa, geography was formally included in the school curriculum of the Cape colony in 1839 (Ballantyne 1986, Wesso 1992, Wesso and Parnell 1992) and it was introduced with the 'white' colonists interests in mind (Wesso 1992). The teaching of geography at 'black' schools was left to missionaries at mission schools. The nature of geography education in the school curriculum originated from the mother country. Geographical knowledge was designed to bolster Britain's position in relation to free trade, the federation of the empire and British empire elsewhere in Africa (Wesso and Parnell 1992). Textbooks and other teaching materials used in South Africa were produced largely by the British. At this stage geography education had a tendency to be generally descriptive and regional in its approach (van der Merwe 1982). It was characterised by a 'capes and bays' approach to teaching. It was also characterised by the

need for the recitation of place names and the focus on statistics. As in the case of Britain, South African geography teachers were inadequately trained. Most South African geography teachers lacked geographical knowledge as it was not taught in tertiary institutions at this stage. Geography education was excluded from the school curriculum in the South African schools between 1903 and 1918, however it was introduced at the University of South Africa in 1918. During that period, geography education found only a minor place in the British school curriculum. The first South African geography syllabus consisted of three sections namely:

- (a) The principles of geography;
- (b) The outlines of the geography of the continents, demanding no detailed knowledge of their geography;
- (c) The more detailed geography of one or more selected regions, including that of districts (van der Merwe 1982).

The British influence shaped the nature of South African education. Ashley (1976) pointed out that "...it was the British who set the pace in the transformation of an education which had an essentially religious nature into the education that contemporary economic and social life demands" (Ashley 1976 p259).

After the National Party came to power in 1948, Afrikaners rejected Empire education which tried to Anglicize Afrikaner children (Wesso and Parnell 1992). A shift in the control of education brought about a shift in the nature of secondary school geography education as it embraces the philosophy of separate development in its content.

2.3.2 The influence of the Apartheid Era on Geography Education

In 1948, after the National Party came to power, the congress for the Christian National Education (CNE) established the Instituut vir Christelike Nasionale Onderwys (ICNO) which issued a report on the content of geography. The report stated that:

Every nation is rooted in a country (Landsbodem) allotted to it by God. Geography should aim at giving the pupil a thorough knowledge of his [sic] own country and the natural objects pertaining to it, in such a way that he [sic] will love his own country, also when compared and contrasted with others, and be ready to defend it, preserve it from poverty, and improve it for posterity.

(Wesso and Parnell 1992 p191)

This report marked the beginning of Afrikaner nationalism in geography education. CNE policy challenged the influence of British geography in the classroom. South African textbooks written in Afrikaans were gradually introduced (Wesso and Parnell 1992) and African and South African topics were included in the syllabus (Ballantyne 1986, Ledger 1978). The geographical content remained largely descriptive and regional (Levy 1984). Apartheid policy forced 'black' students to receive instruction in Afrikaans and this was only ended by the 1976 Soweto Education revolt, a significant bench mark in South African education. Wesso and Parnell (1992) claim that positivism and the 'new' geography of the 1960s eradicated the tradition of colonial and Afrikaner Nationalist influence. The positivist approach advocated the use of scientific methods of analysis in geography. This compelled the university staff and the South African Geographical Society to redraft new syllabi (Wesso and Parnell 1992).

2.3.3 The syllabi

Ballantyne (1987) claims that syllabus aims and content are largely influenced by the ideas and ideologies which are commonly held within a country or region. These ideas and ideologies influence the nature of education. This section considers syllabus changes since the 1960s and the expectations for changes to the practice of teaching. Syllabi which existed during the Empire era are also briefly examined in this section.

2.3.3.1 The influence of the British Empire and the geography syllabi

The first syllabus for the matriculation certificate was drafted in the 1900s (van der Merwe 1982, Wesso and Parnell 1992). Its content was derived from the geography of the British Empire. It focused on physical geography and human geography, i.e. human-environment relationships. The 'Syllabus for Instruction in Geography' was produced under the patronage of the Royal Geographical Society in Britain. In 1910 the syllabus was revised with only minor changes made by the South African Teachers' Association (SATA). The association adopted the definition for geography from the British document entitled 'Suggestions for Teaching Geography' (Wesso and Parnell 1992). All geographical materials and opinions about teaching methods and content were largely imported. As the syllabus content was descriptive, it encouraged teachers to adopt teaching approaches which were teacher-centred and teacher-directed (Levy 1984). The principles on which the syllabus was based were used until the late 1960s (Wesso and Parnell 1992).

2.3.3.2 The syllabus change since the 1960s

The Departments of Education, the Joint Matriculation Board (JMB) and the Committee of Heads of Education (CHE) are responsible for implementing and determining syllabus changes. This group has the power to direct and control the syllabus, the school leaving examinations, and the employment and service conditions of teachers (Ballantyne 1986). Since 1970 the syllabus and examinations at secondary school level have been administered by the JMB and CHE. Secondary geography syllabus revisions took place in 1973 and 1983. Prior to the 1973 syllabus revision, secondary schools were using the 1967 syllabus which was characterised by a large amount of factual content (Nicol 1974) and an emphasis on physical and regional forms (Ballantyne 1986). Nicol (1974) maintained that the 1967 syllabus promoted a traditional and conservative approach to teaching which in turn encouraged students to rote learn. Academics such as Hewson (1972) and Marker (1970), advocated certain improvements in the quality of geography teaching in South Africa. They called for the introduction of interactive teaching strategies such as fieldwork (Hewson 1972), role playing, class discussion, group discussion, individual exercises and simulation games (Marker 1970).

In 1971 the Minister of National Education recommended a revision of all secondary school syllabuses to bring them into line with the scientific approach (Nicol 1974). According to Ballantyne (1986), the 1973 syllabus (Appendix 6) contained three major trends, namely :

- (a) a theoretical approach which was conceptually based;
- (b) a behavioural bias which linked geography with the human or social sciences;

(c) and the use of qualitative as opposed to descriptive methodologies.

The 1973 syllabus reflected a move away from a regional approach towards a systematic approach (Ballantyne 1986, Nicol 1974) by including the study of population and urban geography (Ballantyne 1986). Ballantyne (1986) and Henning (1981) noted that the syllabus did not include any guidance for teachers regarding the aims and objectives of geography education. Henning (1981) pointed out that teachers did not have a "...precise idea of exactly what was required by the syllabus. They could not establish the time devoted to teaching the various sections of the syllabuses" (Henning 1981 p28). However, the subject was much more demanding than ever before. It demanded supplementary material such as "...lists of recommended readings, teaching charts, maps, films, picture sources, games and simulations, models, and other suitable reference material..." (Earle 1976 p263). Gunn (1974) suggested that the 'new' geography, endorsed by the 1973 syllabus, required teaching strategies which were enquiry based whereby students would become more involved in the learning process. These changes in the syllabus caused some concerned geography teachers to organise themselves into ad hoc teacher-study groups in which they discussed and evaluated teaching ideas (Earle 1976). However, Magi (1981) observed that geography in 'black' schools was often taught by those who had a very limited geographical knowledge. Interactive teaching skills such as fieldwork were seldom undertaken and 'black' students were grossly spoon-fed. He also observed that 'black' students claimed that the syllabus was too long for teachers to complete during the course of a single year.

Earle (1976), Henning (1981) and Ledger (1980) maintained that the 1973 syllabus was overloaded with content. It was also argued that both the Higher Grade and Standard Grade syllabuses had been developed as preparation for university entrance (Earle 1976) and that university academics, who were part of the syllabus construction, were concerned largely for students who would continue with the study of geography at a university level (Ballantyne 1982). While Ballantyne (1982), Earle (1976), Henning (1981) and Ledger (1980) criticised the Higher Grade and Standard Grade syllabuses on the basis of the standard of content, Preston-Whyte (1983) argued that there was a widening gap between secondary school geography and university geography. The shortcomings of the 1973 syllabus resulted in the reconstitution of the Inter-departmental Geography Syllabus Committee by the JMB (Ballantyne 1986). Its task was to revise the secondary school geography core syllabus. This resulted in the 1983 syllabuses revision which upheld Pattison's (1973) four major traditions, namely:

- (a) man-land relationships;
- (b) the spatial perspective;
- (c) the regional viewpoint; and
- (d) the earth-science component.

The 1983 syllabus is still being used by various education departments. It was implemented by the Department of Education and Training in 1987. One important difference was the inclusion of a section on ecosystems (Ballantyne and Attwell 1985, Hurry 1987, Nightingale 1985). The preamble and the guidance to teachers was also significantly different. For instance, the syllabus stated that "...education is concerned with

the development of the 'whole being' and not merely with imparting knowledge" (JMB Core Syllabus Guide for Geography standards 8, 9 and 10 1983 p2). Teachers were encouraged to use teaching techniques which were interactive and to use methods such as fieldwork. It was assumed that this would encourage informed, caring, environmental attitudes, values and behaviour. But besides the inclusion of ecology, the content of the syllabus remained much same as the 1973 syllabus. The content did not include a geography of social concern, i.e. political issues (Nightingale 1985). In the main, the 1983 revision focused on the aims and objectives of the subject. The most important aims of the 1983 syllabus were for students to:

- (a) acquire and develop intellectual skills and abilities which will promote on-going education;
- (b) adjust to a society that is undergoing rapid and far-reaching social, economic and political changes;
- (c) enter the world-of-work that is becoming increasingly more technologically orientated;
- (d) develop their moral and emotional (affective) attributes.

These aims and objectives of the syllabus encouraged the use of teaching methodologies which were considered to be non-directive, enquiry-based and student-centred (Ballantyne 1986). The 1973 and 1983 syllabus encouraged teachers to use teaching approaches which would promote the development of concepts, skills, attitudes and values (ibid 1986). However, researchers such as Ballantyne (1986), Ballantyne and Attwell (1985), Hurry (1987), Ledger (1978), Levy (1984), Magi (1981) and Nicol (1979) noted that geography

teachers in South Africa used teaching methodologies which were firmly entrenched in a transmission-reception teaching style. Teachers were found to be using methods which did not take into account the difference between merely knowing and really understanding what was being taught in the classroom. There were many teachers who resisted teaching strategies associated with the 'new' geography. Magi (1981) argued that in 'black' schools most teachers were unable to link the practical work to the theoretical. In general, teachers were uninitiated in their subject and lacked the knowledge associated with the subject. He suggested that, "...black students were grossly spoon-fed and end up being unprepared to devote much time, if any, to thinking for themselves" (Magi 1981 p150). Mphaphuli (1992) also maintained that geography education in schools in Venda were teacher dominated.

It can be argued that secondary school teachers in South Africa in general, and in 'black' schools in particular, were not creating opportunities for students to develop or apply their acquired skills to the real world. The problem is not limited to South Africa. Ballantyne (1986), Beddis (1983), Bowen (1980), Fien (1983), Higginbottom (1980), Huckle (1983), Naish (1980), Ledger (1978) and Rawling (1980) have all noted that most geography teachers in the United Kingdom and Australia used similar approaches which were content based and teacher-centred. Fien (1987) writes:

...one of the major failing of geography teaching to date has been the disproportionate attention we have paid to formal geographical knowledge. In so doing, we have largely ignored the experiential foundations of the discipline in the everyday geographical experiences that comprise the private geographies of our students. We have been too subject-centred in our teaching, acting as if geographical knowledge lies outside our students' experience and that they are merely the receivers of the subject matter we present. (Fien 1987 p47)

The question arises as to why secondary school teachers continue to resist an enquiry based and student-centred approach to geography education. The next section endeavours to understand the problem.

2.3.4 Constraints on teaching styles

Ballantyne (1986) claimed that while the geography syllabi and examinations have changed, the manner in which geography is being taught has not progressed. He argued that organisational elements such as secondary school geography textbooks, syllabuses, examinations, finance, students and colleagues, and training elements such as academic and educational training, in-service courses, subject inspectors or advisors, geography association and universities all influence geography teaching practice. These elements need greater attention if shifts in teacher behaviour are to occur.

Teachers claim that they are adopting traditional teaching methods because there is not enough time to complete those geography syllabi which are to be publicly examined. Teachers claim that the syllabus is too long to practice methods which could be considered enquiry-based, student-centred and non-directive in character. Storm (1983) could have been referring to South African secondary school geography education when he describes "...the overcrowded syllabus, with its inevitable concomitants of hectic pace, didactic exposition, and passive learning, will remain the major obstacle to more participative styles of work" (Storm 1983 p135).

The way in which examination questions test the knowledge of the learnt material also has an effect on the choice of teaching style. Research shows that the public examination system generally tests students' ability to recall a number of facts, terms, definitions and principles (Ballantyne 1986, Earle 1974, Ledger 1978, Nicol 1979, van der Walt 1985). One may ask why examiners set questions which test students' ability to recall. According to Ballantyne (1986), Nightingale (1974) and Takalo (1991), textbooks which are too factual, inspire examiners to set factual recall questions. Ballantyne (1986) and Nightingale (1974) observed that most secondary school geography textbooks were rich in factual information and encouraged rote learning. The availability of resources also influences the choice of teaching methods. Most South African secondary schools, and 'black' schools in particular, seldom have the money for teaching resources which could encourage interactive and student centred learning (Ballantyne 1986, Takalo 1991).

It can be argued that the abundance of facts, the nature of school textbooks and nature of examinations have influenced students to label the subject as a 'swot' subject and one best avoided by the more perceptive student. Craig (1979) and Davies (1987) have noted that geography continues to attract students of low intellect and that the subject is often pursued by students who are afraid of anything which is mathematical.

2.3.5 The educational context of Venda and South Africa

The educational context of Venda can best be understood after reviewing the South African situation. The education system in South Africa has been shaped largely by apartheid and underdevelopment (Hartshorne 1989, Hofmeyr and Buckland 1992). South

Africa has separate sub-systems of education for the 'White', 'Coloured', 'Indian' and 'Black' population groups (Stone 1985). In the 1948 document of the Institute for CNE, Article 15 laid the ideological basis for the policy on 'black' education. It states:

We believe that the calling and task of white South Africa with regard to the native is to Christianise him and help him on culturally, and that this calling and task has already found its near focusing in the principles of trusteeship, no equality and segregation... We believe that the teaching and education of the native must be grounded in the teaching in the life- and world-view of the white trustee... (and that the native must accept) the Christian and national principles in our teaching...
(Hartshorne 1989 p110-111)

The CNE policy marked the beginning of legalised separate development and the 'own affairs' departments in education. The policy provided separate education for different 'black' 'ethnic groups' of 'blacks' (Hofmeyr and Buckland 1992). The enactment of the Bantu Education Act of 1953 on 1 January 1954 passed the control of 'black' education from the provinces to the central government (van Rensburg 1975).

The CNE policy and the Bantu Education Act has resulted in excessive fragmentation of the education system. South Africa has 19 education departments, 11 of which administer 'black' education (Figure 2.2). One of the 11 education departments is the Venda Education Department (Figure 2.1). It has its own ministry which is responsible for administering teacher salaries and conditions of service. It is also responsible for education planning and the preparation of education statistics that are necessary for overall planning in education. Figures 2.1 and 2.2 below represents the structure of the Venda Education Department and the South African education system respectively.

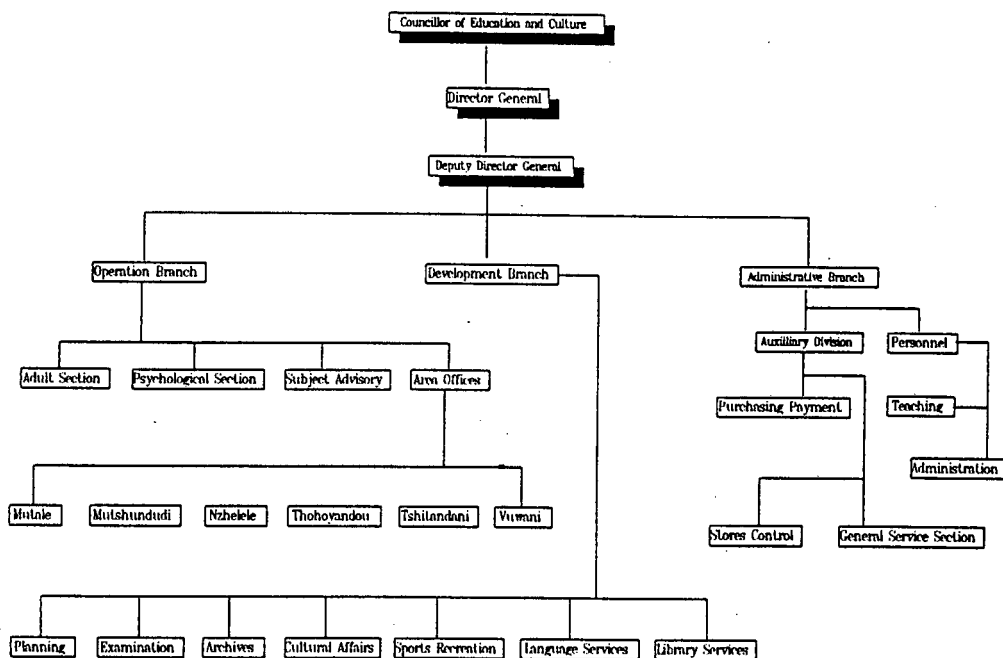


Figure 2.1. The Structure of the Venda Education Department.

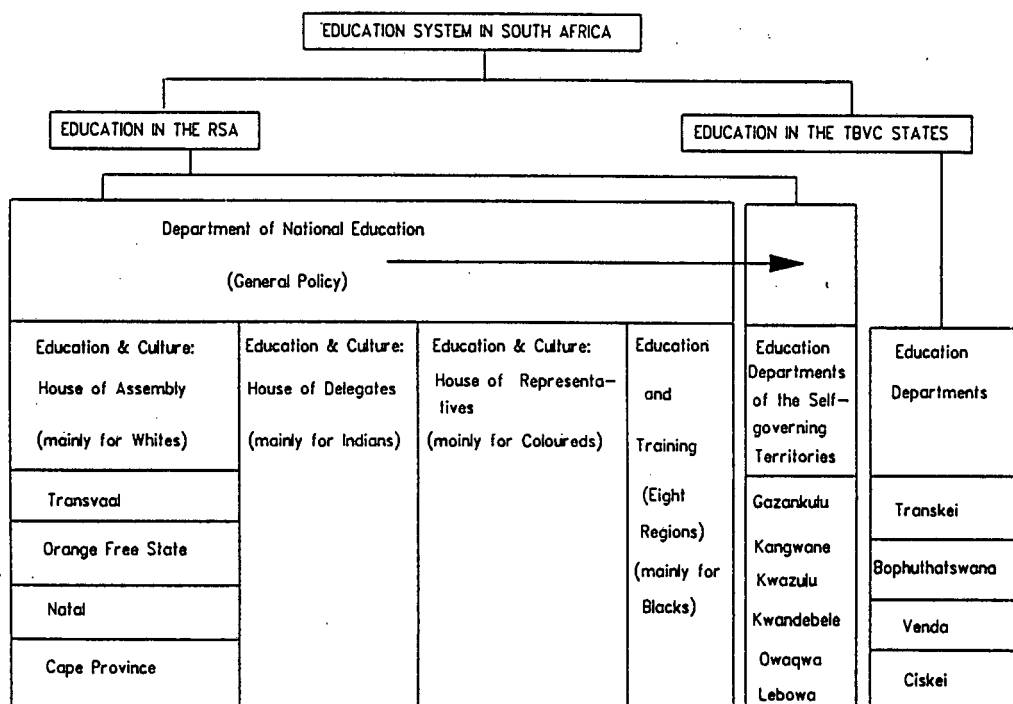


Figure 2.2. Schematic Representation of the Education System in South Africa in 1991.

SOURCE : NATED O2-300 (9207) REPORT 1992 p7

Schools which fall under the Venda Department of Education, use the geography syllabi which is set out by the JMB. The JMB is a university-orientated body which constructs the syllabi and controls matriculation examination standards (Trumpelmann 1991). Ballantyne (1982), Ledger (1978) and Nightingale (1985) argue that the JMB influences the content of geography syllabus in that it reflects the views and ideas of academics rather than those of practising teachers and students. This is especially apparent in 'black' education where the syllabus content deals with issues which are perceived to be irrelevant and outside the experience of 'black' students (Ballantyne 1982, Magi 1991). The central department of education for 'blacks', that is the Department of Education and Training, functions as the examining body. Schools in Venda use geography syllabi and textbooks approved by this department. Most senior secondary geography textbooks currently in use in schools are administered by this department and other education departments and in so doing provide a medium for the perpetuation of apartheid education. Drummond and Paterson (1991) argue that "...the geography textbooks, mapworks and workbooks commonly used in South African schools both reflect and extend the apartheid worldview" (Drummond and Paterson 1991 p66). The human geography section of the syllabus, which covers settlement, economic and regional studies, can be criticised for perpetuating the status quo. For example, a 'black' rural landscape is depicted as irregular, haphazard, over-grazed and eroded, whereas a 'white' rural landscape is portrayed as ordered, well-planned and efficient (Drummond and Paterson 1991).

2.3.5.1 Inequality in Education

Apartheid education "...has resulted in gross inequalities and huge backlogs in provision, especially in African education" (Hofmeyr and Buckland 1992 p.21). Ashley (1992), Hartshorne (1992), Hofmeyr and Buckland (1992) have identified the size of the class, teacher qualification, funding disparities, standard 10 pass rate, and provision of school buildings, classroom and equipment as areas of inequality in the education system of South Africa (Table 2.1).

	White Education	Indian Education	Coloured Education	Black Education
Pupil-Teacher ratio	17:1	20:1	23:1	38:1
Under-qualified teachers (less than Std 10 plus a 3 year teacher's certificate)	0%	2%	43%	52%
Std 10 Pass rate	96%	93,6%	72,7%	40,7%
Expenditure	R3 082, 00	R2 227, 00	R1 359, 78	R764, 73

Table 2.1. Comparative South African Education Statistics 1989.
(Hofmeyr and Buckland 1992 p22)

Ashley (1992) observed that approximately 5 percent of DET teachers have only achieved a standard 6 level of schooling together with a teacher's certificate. According to the statistical planning section of the Venda Education Department, the secondary school student-teacher ratio was 20 : 1 in March 1992. There were 838 teachers with less than standard 10 plus a 3-year teacher's certificate, 5 647 with standard 10 and 1 252 with degrees. The student-classroom ratio in secondary schools in Venda was 42 : 1 in 1992 whilst in DET secondary schools it was 43 : 1 in 1989 (SAIRR, 1989/1990). Ashley (1992)

notes that 'black' schools in South Africa have few textbooks and fewer teaching aids such as projectors, television, computers, etc. These statistics suggest that the 'black' education system is short of everything except students. The reality of this situation poses major difficulties and challenges to teachers who attempt to carry out teaching strategies which are considered to be non-directive and student-centred.

The Bantu Education Act has also affected the training of 'black' geography teachers (Wesso and Parnell 1992). The Extension of University Education Act of 1959 restricted the admission of 'black' students into so called 'white' universities. 'Black' students had to obtain special permission to attend these universities. Provisions were made for the establishment of 'black' universities, but the heads of these institutions were appointed to carry out CNE policies. Most geography lecturers in 'black' universities were from the university of Stellenbosch and other Afrikaner universities. Most of these lecturers maintained close links with their parent institutions (Wesso and Parnell 1992). Geography teachers trained by these lectures "were confronted with a geography with strong ideological and environmental determinist undertones" (Wesso and Parnell 1992 p192). The influence on geography education in 'black' secondary schools is apparent from Magi's (1981) observation of Natal and Kwazulu geography teachers who used conservative teaching methods resulting in the students developing negative attitudes towards learning.

These determinants make it difficult for geography teachers to adopt progressive teaching methods which will end the teacher dominance and which will cause geography students to become active participants in the teaching-learning situation. Researchers such as Davidoff and van den Berg (1990) and Delamont (1976), believe that it is possible to

change teacher behaviour despite the traditional approaches to teaching. Davidoff and van den Berg (1990) suggest that the use of interactive teaching styles could mark the beginning of progressive teaching in our schools and could also challenge the central role played by the transmission-reception teaching styles. Mminele (1979) maintains that interactive teaching develops thinking and reasoning skills in that students are kept actively engaged in the learning experience. It is a teaching approach which develops and improves the students' communication skills. If it is used properly and frequently, discussions and conversations can become everyday experiences in the classroom. Furthermore, interactive teaching moves from the transmission-reception mode towards more effective teacher-student interaction and makes the classroom more dynamic as students are more likely to become actively involved in the learning process. It is an approach which could empower or liberate teachers and which could help to shape the nature of secondary school geography teaching in South African secondary schools. The next section endeavours to explain how interactive teaching could be introduced in the geography classroom.

2.3.6 Teacher Empowerment

Secondary school geography teachers can take greater control of what happens in the classroom through their own empowerment. By empowerment it is meant that teachers should take the opportunity to change their teaching practice in the classroom. Davidoff and van den Berg (1990) argue that teachers should not wait for outside experts to come to their classrooms and show them how to change their teaching behaviour toward a more desirable one. They argue that teachers should be encouraged to understand and

become familiar with the learning process that is taking place in the classroom. A means toward this empowerment is through action research (Davidoff and van den Berg 1990, Hofmeyr and Jaff 1992). Action research is recommended as a tool for teacher empowerment in this study because it enables teachers to become innovators and initiators of change and reform. Teachers cease to be merely the implementer of change and reform. It is a teacher-led initiative which is useful even without adequate teaching resources, in large classes and even in the present apartheid education system (Davidoff and van den Berg 1990). It is an instrument which teachers can use in order to reflect on their teaching style and to investigate the classroom activity. In this way, teachers can become more aware of their practice and informed about the necessary changes. Carr and Kemmis (1980) define action research as a "...form of self-reflective inquiry undertaken by participants in a social situation in order to improve the rationality and justice of (a) their own social and educational practices, (b) their understanding of these practices, and (c) the situations in which these practices are carried out..." (Carr and Kemmis 1980 p80). Walker (1990) maintains that "...action research enables teachers to develop their class skills, to see incremental changes in their work and to take some control over their working lives in ways not previously imagined" (Walker 1990 p62). Simon (1985) suggests that action research "...seeks directly to penetrate into, illuminate, and ... improve the process of education" (ibid p51). It has the potential not only to improve practice, but also to alter "...situations in which practices are carried out" (Simon 1985 p51). Brown et al (1982) claim that it reaches its greatest potential "...when it empowers practitioners to transform their practice" and to become 'emancipated' "...through the process of collaborative effort, rigorous critique and self reflection..." (Brown et al 1982 p2). Davidoff and van den Berg (1990) and Walker (1990) point out

that the major processes in action research are involvement, improvement and transformation.

Stanford and Roark (1974) suggest that "... a teacher can profit more from examining his teaching and by gradually introducing changes designed to lead to the desired teaching style" (Stanford and Roark 1974 p260). It is argued that a means toward changing teacher behaviour is through an awareness of classroom interaction. Teacher behaviour is defined as "...classes of verbal behaviours that a teacher exhibits in the classroom when interacting with students..." (Samph 1976 p737). It is acts by the teacher which happen in the background of classroom interaction. In this study, the teacher is the focus for change and the Flanders system is introduced as a tool for reflecting on classroom behaviour. Its use in the secondary schools could contribute to the achievement of the aims and objectives of the 1983 geography core syllabus.

2.3.7 Flanders Interaction Analysis Categories (FIAC) model

The FIAC model is recommended as a corrective tool for changing teacher behaviour in the classroom because it enables teachers to reflect on their teaching styles. It is an instrument which teachers can use in action research. The model was developed by Ned Flanders (1970). It is used to quantify the kinds of teacher-student interaction which occurs in the classroom. According to Flanders (1970), the tool can be used to analyze:

- (a) How often teachers ask questions;
- (b) What kinds of questions they ask;

- (c) What happens to the ideas that are expressed by students; and
- (d) To what extent and under what conditions are students encouraged to express their own initiative.

Figure 2.3 summarises the FIAC model.

TEACHER TALK Indirect influence	1. ACCEPTS FEELINGS: accepts and clarifies the feeling and tone of students in non-threatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included.
	2. PRAISES OR ENCOURAGES: praises or encourages student action or behaviour. Jokes that release tension not at the expense of another individual, nodding head or saying 'uh huh?' or go on are included
	3. ACCEPTS OR USES THE IDEAS OF STUDENTS: clarifying, or building ideas or suggestions by students. As teacher, brings more of his ideas into play, shift to category five.
	4. ASKS QUESTIONS: asking a question about content or procedure with the intent that a student answer.
TEACHER TALK Direct influence	5. LECTURES: gives facts or opinions about content or procedure; expressing his own idea; asking rhetorical questions
	6. GIVES DIRECTIONS: directions, commands, or orders with a student is expected to comply.
	7. CRITICISES OR JUSTIFIES AUTHORITY: statements, intended to change students behaviour from non-acceptable to acceptable pattern; bawling someone out; stating why the teacher is doing, extreme self-reference.
STUDENT TALK	8. STUDENT TALK - RESPONSE: talk by students in response by teacher. Teacher initiates the content or solicits student statement.
	9. STUDENT TALK - INITIATION: talk by students, which they initiate. If 'calling on' student is only indicate who may talk, the observer must decide whether student wanted to talk. If he did use this category.
	10. SILENCE OR CONFUSION: pauses, short periods of silence, and periods of confusion in which communication can not be understood by the observer.

*There is NO scale implied by these numbers. Each number is classificatory; it designates a particular kind of communication event.

Figure 2.3 Summary of Flanders Verbal Interaction Analysis Categories model.

(Flanders 1970 p34)

Like any other observation schedule, the Flanders system has strengths and limitations. Morrison and McIntyre (1969) argue that it is a very effective tool because it reveals a reasonable amount of the actual teacher behaviour in the classroom. It enables teachers to discuss the act of teaching in more specific terms. Teachers can gain insight into their shortcomings and strengths in relation to the nature of classroom interaction (Nacino-Brown et al 1982). Ramsey suggests that it is "...useful in developing flexibility within the teachers' styles by allowing them to vary their direct and indirect influence and to adjust their behaviour according to their plans or situation" (Rasmey 1974 p267). However, Delamont and Hamilton (1976) and Wragg et al (1976) argue that it is concerned only with overt, observable behaviour. Much information is lost, particularly the non-verbal aspects of communication. Gestures, smiles and other non-verbal behaviours can not be coded, especially when tape recorded lessons are being evaluated. Furthermore, the system is less suitable to informal classroom situations, that is classes where students do work in silence, or perform individual or group tasks, or where public talking limits the participation of others (Delamont 1976, Wragg et al 1976).

The Flanders system limits the student-talk categories to solicited and unsolicited student talk (Wragg 1976). This is justified by Delamont (1976) who argues that teacher talk is the most predominant element in classroom interaction and it is a factor which establishes the tone of interaction. Categories 4 and 5 are too broad, for example, category 4 could include brief questions which require self-evident replies, whilst category 5 does not distinguish "...between giving information which is correct and that which is incorrect. Category 10 can represent both the silence achieved by an autocrat and the chaos which occurs when the teacher has lost control" (Wragg 1976 p56).

In order to overcome some of the criticisms raised, teachers as classroom researchers, can use other classroom interaction scales as instruments for action research. There are ninety-nine known interaction scales (Simon and Boyer 1974) of which sixty-seven are suitable for use in classrooms; fifty-nine are suitable for any subject and fifty two are suitable for coding 'live' classroom interaction (Delamont and Hamilton 1976). Some other interaction scales besides the Flanders system are :

(a) Dimensions of Psychological Distance designed to study and teach interaction skills in intensive groups involving group discussions (Roark 1974).

(b) The Teaching Strategies Observation Differential (TSOD) "...designed to provide a measure of the overall teaching strategy or style used by a teacher, including both verbal and nonverbal interactions between teacher, students and the physical materials which constitute the class environment" (Anderson et al 1974 p274).

(c) The Hill Interaction Matrix (HIM) which "...conceptualizes verbal interaction on two dimensions : content (what is being discussed) and process (how it is being discussed)" (Johnson 1974 p280).

(d) The Barrett-Lennard Relationship Inventory (BLRI) designed to measure five different aspects of the therapist-client relationship (Stiltner 1974).

(e) Bales and Strodtbeck (1967) designed the Verbal Interaction Category System (VICS) to analyze classroom verbal behaviour.

(f) Hough (1967) designed the Observational System for Instructional Analysis (OSIA) to test instruction hypothesis generated from learning theory. These are some of the known interaction models which teachers can use to analyze their teaching behaviour.

2.4 Summary

The nature of secondary school geography education is shaped by the educational context of South Africa. The context encourages teachers to adopt teaching methods which are considered to be traditional and conservative. This is apparent in all education departments, but it is more prevalent in 'black' schools.

It has been argued that teacher empowerment could bring about radical changes in teacher behaviour and teaching styles. The use of the Flanders Interaction analysis categories (FIAC) model as an action research technique was recommended. Its strengths and limitations have been discussed, together with other interaction analysis models suitable for use in the teaching-learning situation.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Chapter Two examined the changing nature of secondary school geography education and the use of FIAC as an instrument for action research. This chapter describes and explains the research instruments which were used to gather the data in this study. Two types of research instruments were used, namely:

- (a) A questionnaire which was delivered to 500 geography teachers in secondary schools in Venda.
- (b) The observation of 30 lessons at 25 secondary schools using the Flanders Interaction Analysis Categories as an observation instrument.

3.2 The questionnaire

Bennett (1976), Best (1977), Good (1972), Hills (1982), Hook (1981) and Wolf (1988) all suggest that the questionnaire is the most suitable instrument used to obtain facts, to ascertain the respondents' feelings, beliefs, opinions and intentions or to discover reasons for those feelings, beliefs, intentions or expectations. Most items in the questionnaire

were developed from Bennett's (1976) questionnaire on teaching styles and students progress in the United Kingdom. The questions which related to teacher attitude and practice were taken largely from Ballantyne's (1986) work in secondary schools of the Cape Education Department in South Africa. The questionnaire can be found in Appendix 4.

Part One was developed by the researcher. In Part Two, items A1 to D13 of the questionnaire were taken from Bennett's (1976) questionnaire; items D14 (a) to (i) were developed from the FIAC model; and item E was developed by the researcher. In Part Three, items 1 and 5 were taken from Ballantyne's (1986) questionnaire and the remaining items were developed by the researcher. A structured questionnaire was designed because it enhances "...consistency of response across respondents; data tabulation generally is straightforward and less time-consuming than for open-ended items" (Wiersma 1991 p176). The questionnaire was composed of Likert summated ratings of often, seldom, never in some parts and of strongly agree, agree, disagree, strongly disagree in other parts. An even number of response options was designed in Part Three of the questionnaire to 'force' the respondents "...to choose between a favourable and unfavourable response to the attitude object" (Anderson 1988 p427). The researcher was concerned that the respondents might use the 'uncertain' response option to avoid making a real choice. The Likert method was selected because it requires fewer items than Thurstone's and Guttman's methods (Verma and Beard 1981). It is easy to construct, it is adaptable to a wide variety of attitudinal objects and its settings, and provides the opportunity to assess the intensity of the attitudes (Anderson 1988).

The questionnaire was comprehensive and attempted to include all aspects of interactive teaching styles as explained by Flanders (1970). Like Ballantyne's (1986) and Bennett's (1976) questionnaires, it illicited answers relating to personal information about the teachers. Part two attempted to illicit information about the geography classroom, classroom organisation, curriculum organisation and interaction analysis. These aspects all seem to play an integral role in interactive behaviours in the classroom (Hertz-Lazarowitz 1990). Part three considered the geography teachers' attitude toward various teaching styles. It also asked teachers to explain the difficulties they experienced in developing an interactive teaching style. Essentially Parts Two and Three were aimed at establishing the perceived teaching styles used by secondary school geography teachers in Venda.

In summary, the questionnaire aimed to establish information about :

- (a) classroom management and organisation : the extent of freedom of movement and talk in the classroom and the seating arrangement;
- (b) curriculum organisation : the extent of fieldwork and work taking place outside the classroom; the use of the library as part of the geography lesson; and the use of teaching resources in general. This item was included because student-centred activities demand a high level of teaching and learning resources (Hanson 1975);
- (c) interaction analysis: perceived interactive styles based on the FIAC model;

- (d) teacher control and sanctions : the frequency of disciplinary techniques which teachers apply in dealing with student behaviour modification. This item was included because disciplinary techniques applied in the classroom can sometimes enhance a warm supportive classroom atmosphere (Tanner 1978). Fien (1983) writes, "...such a classroom atmosphere would enable students to feel safe and confident to express their own feelings and perceptions about the environment and their place within it" (Fien 1983 p51); and
- (e) teaching methods in geography education : respondents' attitude towards the teaching methods which were considered to be non-directive, enquiry-based and student-centred.

As Wiersma (1991) has suggested, an open-ended item that required the respondents to describe and explain the difficulties they experience in developing an interactive teaching style, was placed at the end of the questionnaire.

Before preparing the final form of the questionnaire, the items were tested with 15 secondary school geography teachers in a pilot study. Some deficiencies were uncovered and additional items were suggested. It was revised and modified, and submitted together with the research proposal, to the Higher Degrees Committee of the Faculty of Education, UCT., for approval. A letter seeking permission to undertake research in secondary schools in Venda (Appendix 7) and the questionnaire was posted on 6 August 1992 to the Education Department. The permission was granted on 29 September 1992 with a condition that the researcher should contact the Area Managers under whose

jurisdiction the schools fell (Appendix 3). All six inspection areas were visited in October 1992.

The questionnaires were delivered to 120 secondary schools. A delivery and collection method was used because it was not possible to use postal services due to the post office workers strike. The hand delivery method enabled the researcher to explain the purpose and significance of the study to the respondents (van Dalen and Meyer 1966). Some teachers did not have time to complete the questionnaire because they were struggling to complete geography syllabus in time before the school examinations. Some could not teach for some weeks because of school boycotts and strikes. Other teachers were busy writing their examinations and were also unable to participate. Despite these circumstances, 253 questionnaires were collected between November 1992 and January 1993. Lesson observations began in February 1993.

3.3 Observation

3.3.1 The Purpose of Lesson Observations

Geography lessons were observed to examine the actual interactive teaching styles using FIAC model as an observation schedule. Micceri (1990) claims that the observation of teacher performance in the classroom provides insight into the steps necessary to improve teaching behaviour. The FIAC model enabled the researcher to systematize the observation process. Best (1977) has pointed out that "...observation as a research technique must always be expert, directed by specific purpose, systematic, carefully

focused, and thoroughly recorded. Like other research procedures, it must be subjected to the usual checks for accuracy, validity and reliability" (Best 1977 p178). Cross referencing and checking was achieved by training two independent observers who performed the coding from listening tape recording of the lessons. The researcher and the two independent observers had the opportunity to compare their respective analyses. Adjustments to either analyses sheets were made after discussion.

The second research instrument, namely FIAC, was used because researchers such as Ballantyne (1986), Davies (1987), Earle (1976), Ledger (1978), Magi (1981), Nicol (1979) and Nightingale (1985) have noted that in South African secondary schools in general, and in secondary schools in Venda in particular (Mphaphuli 1992), geography education is characterised by the transmission of factual knowledge rather than any significant degree of interpersonal communication between teachers and students. They noted that there was too much teacher talk in the geography classroom. Walker and Adelman (1986) argue that the FIAC system is suitable to classroom conditions which are marked by a high rate of teacher talk. Out of ten categories, seven are for teacher talk and only two are for student talk.

3.3.2 The Training of the Observer

Flanders (1970) recommends that observers should be trained for at least four hours before attempting to code a lesson. The researcher was trained as an observer by his supervisor. Video taped lessons were coded as a training exercise. The researcher spent a week in January 1993 learning to code 'live' classroom lessons. The training took ten

hours and after that, 30 lessons were observed in February 1993. Fifteen secondary schools were randomly included in the sample with the intention of observing two teachers per sampled school (see 3.3.3 below). Lesson observations were coded by the researcher and also taped on a good quality tape recorder. Galton (1988) maintains that mechanical recording allows for repeated observation and for several observers to agree on observed interaction activities.

3.3.3 Direct observation

All lesson observations were scheduled by appointment. Appointments were made before each observation to enable the teachers to understand the criteria and the coding procedure (Fox 1969). The Flanders Interaction Analysis Categories model was explained to the teachers before their lessons were observed. Teachers were informed that they were "...not being evaluated, studied, or even being used as a model" (Flanders 1970 p73). They were encouraged not to make special preparations for the lessons. Flanders has pointed out that normal and regular classroom interactions should be observed.

The arrangements for all observations were adapted to the needs and feelings of the teachers being observed and not for the convenience of the researcher (ibid 1970). Initially, a sample of fifteen secondary schools was randomly selected, but ten more schools were added because some teachers withdrew from the agreement. All withdrawals were done on the day of observations. Out of thirty lessons observed, only three were presented by female teachers. Most school principals, who taught geography, showed apathy and lack of interest in this study. Most were not willing to complete the

questionnaire and only one allowed his lesson to be observed. Eleven lessons were observed in junior classes, that is, standards 6, 7 and 8, while the remaining nineteen lessons were observed in senior classes, that is, standards 9 and 10.

All lessons were observed in schools in a rural environment. Venda is predominately a rural region. In general, most schools had poorly equipped classrooms and were characterised by a shortage of seating accommodation, library facilities and resources. Some classes had a maximum of sixty-five students. Observations of teaching behaviours focused on teacher talk and student talk. In all the observed lessons, the teachers stood in front of the students and conducted the lessons from this vantage position. Given these circumstances, it is unlikely that the FIAC model will show a high level of student interaction in the classroom.

3.4 The Flanders Interaction Analysis Categories model as a research instrument

3.4.1 The use of the FIAC model

The Flanders Interaction Analysis Categories (FIAC) model, as an action research tool and a tool for teachers to use in their classrooms, can lead to changes in teacher behaviour (Amidon and Flanders 1967, Flanders 1970, Hook 1981, Morrison and McIntyre 1969, Ramsey 1974, Roark 1974, Stanford and Roark 1974, Stones 1979, Wragg et al 1976).

The researcher used nine categories of verbal behaviour to examine the actual interactive teaching styles of geography teachers. These categories enabled the researcher to analyze a range of interactions which were taking place in the classroom. Barrow and Milburn (1986) used the tallies from an observed lesson to describe the interaction between teachers and students. This was achieved by calculating the percentage of teacher talk and student talk. In this study, the identical method was used to determine the nature and extent of these interactions. Flanders (1970) argues that teachers who accept feelings, praise and encourage, and use the students' ideas, are considered to be using an indirect teaching approach. Those who tend to lecture, give direction and criticise are considered to be using a direct teaching approach. The FIAC model enabled the researcher to examine the extent to which teachers allowed for students responses (Amidon and Flanders 1967).

3.4.2 The use of the Flanders System as an analytical tool

Perceived teaching styles, that is item D14 of the questionnaire, were analyzed and compared with the tallies derived from the Flanders observation schedules. The relationship between perceived and actual teaching styles is described and explained in Chapter Four.

The model revealed how much of the lessons was talk, how much of the talk was by the teachers, how much of the teachers' talk accepted feelings, praised, accepted ideas, questioned, lectured, commanded or criticised. Furthermore, the FIAC method enabled the researcher to evaluate the student talk that was stimulated by teachers, talk that was

initiated by students themselves and the amount of talk that was sustained or extended. As Flanders (1970), Hook (1981) and Stanford and Roark (1974) have pointed out, it enables the researcher to analyze the teachers' use of students' ideas and acceptance of the students' feelings, as well as an understanding of the emphasis on direct authority and discipline problems. The researcher examined the manner in which teachers responded to statements made by their students, that is direct and indirect responses, and whether they responded to these statements with acceptance or rejection. By measuring how much the teachers' talk was devoted to lecturing and questioning of students, that is categories 4 and 5 of the system, the researcher was able to evaluate the emphasis on the subject matter being taught (Flanders 1970, Wragg et al 1976).

3.5 The perceived teaching style and the actual teaching style

Ballantyne (1986) maintains that sometimes teacher attitudes and practice differ. In his study, he observed that geography teachers in 'white' South African secondary schools perceive progressive teaching methodologies positively. They consider teaching methodologies which are considered to be student-centred, enquiry-based and non-directive to be suitable for the present secondary school geography education. However, he also observed that teachers are compelled to employ teaching styles which are teacher-centred and directive. The use of teaching resources such as the overhead projector encouraged the use of 'chalk and talk' teaching styles. His study showed that sometimes the perceived and intended teaching style differed with the actual teaching style.

This study also support Ballantyne's findings. The differences between perceived and the actual teaching styles are described in Chapter Four.

3.6 Limitations of the study

The following limitations should be recognised:

- (a) Limited funding restricted the number of lessons that were observed. A greater number of lesson observations would have benefitted this investigation.
- (b) The study does not attempt to cover all aspects of interactive teaching styles. It covers only the verbal interaction between teachers and their students.
- (c) The presence of the researcher as an observer is likely to have affected the nature of classroom talk. Teachers may not have used teaching strategies such as group work and fieldwork because of the presence of the researcher. Some students may have felt restricted and as a consequence did not participate in the lessons because of the presence of the researcher.

3.7 The potential significance of the study

(a) The research should provide useful information to those wishing to encourage secondary school geography teachers to adopt interactive teaching styles.

(b) Geography teachers may be encouraged to conduct action research that will enable them to reflect on their teaching style.

(c) The research findings could be useful for in-service training programmes. It could be used to show how teachers change their teaching behaviour through the use of the FLAC model as an action research tool and as a source for teacher empowerment.

(d) The study may be useful for pre-service teacher training programmes. It would enable geography educators to show how pre-service teachers could use interactive teaching styles.

3.8 Methods of analysis

3.8.1 The questionnaire

The Systat Version 5.0 computer software package was used to analyze data obtained from the questionnaire. It was used to tabulate the frequency of responses to various questions. The package was also used to identify the principal components using factor analysis.

3.8.2 The Flanders system

After the researcher had observed all the lessons, thirty matrices each of ten rows and ten columns were developed, each corresponding with the ten major interaction analysis categories compiled from the observation codes according to FIAC model (Appendix 8). The matrices were established by recording pairs of numbers in each observation sheet which permitted an analysis of the sequences of activities during the lessons. Each number was treated as an initial member of a pair and a terminal member, the first number always functioning as the value in the row, the second as the value in the column.

The thirty matrices were collapsed to form one matrix for all lessons observed (Table 4.9). The matrix provided a convenient device for analysis of the summarized teacher-student interaction data. To simplify the matrix, the tallies were converted into percentages. Information about teacher-student interaction was shown by the overall percentage of tallies in each column.

3.9 Summary

The questionnaire and the FIAC model were used to gather data for this study. The questionnaire was used to establish the perceived teaching style, whilst the Flanders system was used to examine the actual interactive teaching style.

The FIAC model was used as an analytical tool which enabled the researcher to determine the nature of teacher talk and student talk. It is hoped that this data will shed more light on the geography teachers' attitudes and practice in secondary schools in Venda. The chapter also emphasised the limitations and significance of the study.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSES

4.1 Introduction

The previous chapter described the two research instruments used in this study. This chapter presents the data analysis. The data from the questionnaire is first analyzed and thereafter the information from the classroom observation. The analysis highlights the perceived teaching styles of secondary school geography teachers, the difficulties secondary school geography teachers experience in developing an interactive teaching style, the principal components of the study, the actual teaching styles and finally considers the difference between perceived and actual teaching styles. Table 4.17 indicates the differences between the perceived and the actual teaching styles.

4.2 Questionnaire Analysis

The questionnaire can be found in Appendix 4. On the basis of the 253 returns, the following generalisations can be made about secondary school geography teachers in the Venda Education Department (Table 4.1). Geography education is taught mainly by male teachers (79,4%). Ballantyne (1986) also found that geography education in 'white' schools of the Cape Education Department is taught mainly by male teachers. The majority of teachers (56,9%) in the Venda Education Department have a three year

college Professional Teachers Diploma. Most teachers (78,3%) had three or more years of tertiary training either at the university or at the college. A small proportion of geography teachers (6,7%) occupy senior teaching posts. Most geography teachers (62.1%) in the department have 5 or more years of teaching experience. Almost half of the teachers (47%) teach up to and including standard 10 level. In general, geography teachers are reasonably experienced and have had at least three years of tertiary training as geography educators.

N = 253	
Personal Item	% Respondents According to Category
1. Gender:	Male Female 79,4 20,6
2. Qualifications:	Bachelors Teaching Diploma 34,4 65,6
3. Position:	Principal HOD Teacher 4,3 2,4 93,3
4. Teacher Training: No. of years	University College
1 Year	2,0 -
2 Years	1,1 12,7
3 Years	4,7 6,9
More years	18,6 4,0
5. Tertiary Geography Education	No. of Years 0 Year = 8,3 1 Year = 5,5 2 Years = 7,9 3 Years = 53,3 4 Years 14,2 More Years = 10,8
6. Matriculation Geography	Yes No 89,3 10,7
7 Teaching level	Standard 6 = 7,9 7 = 11,1 8 = 13,0 9 = 21,0 10 = 47,0
8. Teaching Experience in Years	Probationary Year = 2,4 1 Year = 5,9 2 Years = 8,7 3 Years = 9,9 4 Years = 11,0 5 Years = 17,4 More years = 44,7

Table 4.1 Summary of the Personal Data in Percentage.

4.3 The context of the geography classroom

Respondents were asked to answer questions on the context of the geography classroom because it reflected the degree of permissiveness and the control over the teaching - learning activity (Bennett 1976). Information was obtained about the movement of students and their talk, the seating arrangements, the extent of fieldwork and observations outside the school, the use of the library as a teaching resource and the perceived interactive teaching styles.

4.3.1 The geography classroom seating arrangement

Q1 and Q2 in part 2 asked teachers to indicate the seating arrangements in the classroom. The responses (52,6%) indicated that students seldom or never decided for themselves where they sat in the classroom. These findings reflected the teacher's control over physical movement of students. Seats were usually arranged so that the students sat in individual chairs or desks (40,6%) or in pairs (45,7%). Only 13,8 percent of the respondents arranged the seating for students to sit in groups of 3 or more.

4.3.2 Group work as a teaching strategy

Group discussions and activities are often characterised by interactive teaching methods (Kruger and van Schalkwyk 1993). These methods enable students to support one another in the learning process and improve the language competence of the students (Boqwana 1991). Group work enhances communicative skills such as reading and talking.

Q3 and Q4 asked teachers to indicate how students were put into the various groups when group work was used as a teaching strategy and to indicate the frequency of group work. The responses indicated that group work was seldom (79%) used. This means that geography students in the Venda Education Department have limited opportunities for exchanging opinions, ideas and of supporting individuals who may experience certain difficulties with concepts or techniques. When group work was used only 15 percent of the respondents grouped students according to ability. This is a form of internal streaming device (Bennett 1976). Byrne (1987) suggests that grouping fast and slow students together narrows the gap between the fast and slow students in the class. Another advantage is that all groups perform the same tasks and the teacher is then able to share the results with the whole class. It has been found that mixed ability grouping creates a co-operative atmosphere within the class (Kemp 1986).

4.4 Classroom organisation

Items 5, 6, 7, 8 and 9 in Part Two of the questionnaire were designed to establish how geography teachers organize their classrooms. The result indicate the degree of teacher control and permissiveness (Bennet 1976). The responses to Q5 and Q6a indicated that approximately 81 percent of the respondents seldom or never allowed their students to move around the classroom during group discussions and activities. About 54 percent of the teachers expected their students to be quiet most of the time. That teacher control of physical movement and talk was generally high and that there was a low degree of permissiveness.

4.5 Organisation of the geography curriculum

Item 10 relates to use of fieldwork as a teaching strategy. Fieldwork is a method of planned discovery whereby teachers take students out of school to learn geographical facts and ideas for themselves (Boqwana 1991). It should develop critical thinking and understanding of the student. Item 11 relates to the use of the library in geography lessons. The library is a source of reference enabling teachers and students to increase their knowledge and satisfy their intellectual curiosity (Hanaire 1965). Item 12 relates to the use of teaching resources. Enquiry and discovery learning methods provide students with a more frequent access to a wider range of teaching and learning resources (Hanson 1975).

4.5.1 Fieldwork

Fieldwork can be a self-discovery teaching strategy which provides students with the opportunity to gain first-hand information and insight (Kruger and Schalkwyk 1993). Geography teachers seldom (72%) use field work as a teaching strategy. Only 10 percent of the respondents took students outside the confines of the classroom for direct observation. Often the school as an organization limits the use as a teaching strategy (Graves 1965). However, geographical fieldwork should be undertaken because it enables the student to develop an eye for landscapes (Boqwana 1991). It enables students to experience terms such as 'steep' or 'gentle' slopes and other geographical phenomena. Furthermore, it is a worthwhile reminder that the 1987 DET geography syllabus recommended that teachers should undertake well planned and meaningful fieldwork

which should include: observation and measurement in the field; the recording and processing of data and the interpretation of written and graphical information.

4.5.2 The use of the library as part of the geography lesson

The 1987 syllabus also recommended that students should make use of secondary sources such as reference books and other library materials. The responses to Q11 indicate that on average, only 15 percent of the respondents frequently used the library as part of a geography lesson. However, most of the respondents (65%) have indicated that they could never consider using the library because their schools did not have such facilities or resources.

The findings serve to indicate that students have limited opportunity to use secondary sources such as reference books, maps, photographs, diagrams, films, tapes and slides, as well as television, the radio and the press.

4.5.3 The use of teaching resources

Item 12 of the questionnaire relates to use of teaching resources. These resources have advantage of bringing reality to the classroom and are a means to develop student thinking (Boqwana 1991). Resources can motivate students and enable them to proceed at their own pace without the presence of the teacher (Hanson 1975). Respondents were asked to indicate the kinds of teaching resources they used under the categories often, seldom and never. Table 4.2 below indicates their response.

TEACHING RESOURCES	OFTEN
Textbooks	30,5
Wall maps	15,5
Photographs	12,1
Pictures	11,1
Atlases	10,9
Newspapers	8,1
Magazines	7,1
Video films	1,6
Films	1,3
Sound tapes	1,0
Slides	0,8

Table 4.2 The perceived use of teaching resources expressed as percentage.

Textbooks which are typically teacher-centred instruments (Hanson 1975) are frequently used in the Venda Education Department as indicated by 76,3 percent of the respondents. The use of textbooks surpassed other teaching resources by a large margin. Only 2 percent of the respondents have added globes and models as other teaching resources used in the geography lesson.

The responses indicated that interactive teaching resources such as films, video, sound tapes and slides were not widely used in schools in Venda. Graves (1965) argues that these materials help students to observe geographical phenomena which can not be observed directly through fieldwork. Furthermore, these are teaching resources for problem-solving because they bring reality into the classroom (Hanson 1975). They are also suitable for less-able students who have reading difficulties (ibid 1975). The limited use of these resources can be explained by the fact that most secondary schools in this region are in rural villages which do not have electricity. Furthermore, the use of newspapers and magazines was also limited because most village shops, if not all, are not supplied with newspapers and magazines.

4.6 Interaction analysis

Interaction analysis indicates whether the learning process is teacher dominated or student-centred (Bennett 1976, Flanders 1970). Items 13 and 14a-i of the questionnaire were specifically designed to establish the perceived interactive teaching style used by geography teachers in the Venda region. Q13 asked the respondents to indicate the amount of teaching time they devoted to (a) talking to the class as a whole, (b) to students working in groups on work assigned by the teacher, (c) to students working in groups on work of their own choice, (d) to students working individually on work assigned by the teacher, and (e) to students working individually on work of their own choice. The responses indicated that:

- (a) only 42% of the lesson time is taken by teachers talking to the class as a whole.
- (b) 18% of the time is spent by students work in groups on tasks assigned by the teacher.
- (c) 11% of the time is spent by students working in groups on task of own choice.
- (d) 18% of the time is spent by students working individually on tasks assigned by the teacher.
- (e) 11% of the time is spent by students working individually on tasks of own choice.

These figures indicated that in general, student work was teacher directed (78%) of the time the remainder being student directed. These responses also indicated that group work was less favoured than individual work.

4.6.1 The perceived interactive teaching style based on Flanders Interactive Analysis.

Secondary school geography teachers were asked to indicate their responses to the Flanders Interactive Analysis Categories using the scale often, seldom and never. The perceived use of lecturing is noteworthy in that the actual observed behaviour showed a very different response. Mphaphuli's (1992) study revealed that the lecturing style was the most dominant activity in geography classrooms in Venda. The other factor is that Table 4.12 reflects that out of 14 928 tallies in the matrix, 8 259 tallies fell in the lecture category alone. While the lecturing style was perceived to be the least used by the

respondents, Table 4.9 shows that it was the frequently used in observed secondary schools in the Venda Education Department. Table 4.3. indicates how the respondents used the Flanders categories.

FIAC	OFTEN	SELDOM	NEVER
Accepts feelings	70,3	29,7	-
Praises or Encourages	90,8	9,2	-
Accepts or uses the ideas of students	59,5	39,7	0,8
Asks questions	89,7	10,3	-
Lectures	12,4	58,3	29,3
Gives directions	73,3	26,7	-
Criticisms or justifies authority	13,1	38,9	48,0
Unsolicited Student Talk	45,1	40,6	14,3
Silence	34,4	53,6	12,0

Table 4.3. The perceived use of the Flanders Interaction Analysis Categories expressed as percentage.

The frequency with which each of the Flanders Interaction Analysis Categories was felt to be used was ranked as follows:

FIAC	PERCENTAGE
Praises or Encourages	18,6
Asks questions	18,4
Gives directions	15,0
Accepts feelings	14,4
Accepts or uses ideas of students	12,2
Silence	9,2
Unsolicited student talk	7,0
Criticizes or justifies authority	2,7
Lectures	2,5

Table 4.4 The perceived use of the FIAC ranked and expressed as a percentage.

Table 4.4 indicates that the 'praises or encourages' category was frequently used in the Venda Education Department as indicated by 90,1 percent of the respondents. The least used strategy was the 'lectures' category ranked the lowest (2,5%). Flanders (1970) argues that those teachers who identify with the feelings of students, and who praise, encourage and accept the students' ideas, tend to be using an 'indirect' teaching approach. Those who lecture, give commands and directions, and who criticize and justify authority use a more 'direct' teaching approach. Lessons which involve the use of indirect teaching strategies are interactive and encourage student talk, participation and involvement in the learning experience.

Teachers felt that they praised and encouraged students (18,6%), that they accepted students feelings (14,4%) and that they accepted and used the ideas of the students (12,2%). These responses all-serve to show that the teachers perceived themselves to be adopting an indirect approach to teaching.

4.6.1.1 The perceived use of the FIAC according to gender, qualifications, teaching level and teaching experience

The sample population were grouped according to gender, qualifications, teaching level and teaching experience in their perception of the Flanders categories. There are no significant differences concerning the perceived use of all Flanders categories according to qualifications, teaching level and teaching experience. There are differences concerning the perceived use of the criticism category between male and female teachers. Table 4.5. below indicates the perceived use of categories of the Flanders system according to gender.

FIAC	MALES	FEMALES
Accepts feelings	14,3	14,8
Praises	17,9	21,3
Accepts or Uses the ideas of students	12,5	10,9
Asks questions	18,2	20,0
Lectures	2,8	1,3
Gives directions	14,7	16,1
Criticisms or Justifies authority	2,7	11,5
Unsolicited student talk	9,5	7,8
Silence	7,4	5,2

Table 4.5 The perceived use of FIAC according to Gender and expressed as percentage.

Table 4.5 indicates that there is no major difference between male and female teachers concerning the use of lecturing as a teaching style. The only difference was that female teachers felt that they spent approximately 11,5 percent of time in their lessons criticising students and justifying authority. Male teachers felt that they spent only 2,5 percent of the time criticising students and justifying authority. Both groups of teachers felt that they spent a lot of time praising or encouraging their students and asking questions of their students.

4.7 Discipline

Item E refers to behaviour modification. The item was included because discipline is inseparable from teaching and learning (Jackson 1991, Tanner 1978). The matrix would indicate if teachers are experiencing disciplinary problems (Flanders 1974). (Table 4.10 reflects the state of actual classroom discipline at observed schools.) Teachers were asked to indicate disciplinary techniques they used based on the scale often, seldom and never. Table 4.6 below indicates the perceived use of the listed disciplinary techniques.

DISCIPLINARY TECHNIQUE	OFTEN	SELDOM	NEVER
Giving extra work	37,0	58,8	9,2
Ignoring disruptive behaviour	17,1	27,2	55,7
Praising appropriate behaviour	83,9	12,8	3,4
Counselling student	53,5	41,6	4,9
Reprimanding student	33,6	46,5	19,9
Making student pay or Repair damages caused	13,3	42,1	44,6
Extending lessons to break times	10,4	38,0	51,6
Contacting the parents	19,5	58,7	21,8
Isolating a disruptive student	13,4	41,0	45,6
Sending student to office for discipline	21,6	67,1	11,3
Encouraging student to behave correctly	90,9	8,8	1,2
Walking out of the classroom	3,3	18,3	78,4
Stopping the lesson and asking students to do their work	6,0	23,1	70,9

Table 4.6 The perceived use of disciplinary techniques expressed as percentage.

The table suggests that teachers deal with behaviour modification by encouraging the students to behave correctly, by praising appropriate behaviour and by counselling students. These disciplinary techniques are often applied by progressive schools (Shipley et al 1972). These techniques are less likely to be psychological damaging to students (ibid 1972, Tanner 1978). However, approximately 6 percent of the respondents have added corporal punishment as a disciplinary technique which they frequently used. Shipley et al (1972) and Tanner (1978) argue that teachers should use corporal punishment as a last resort. It exposes students to excessive physical force which may be psychological damaging to students. Jackson (1991) argues that it should never be used because it is not acceptable in the classroom situation.

Table 4.7 below shows how the respondents ranked their perceived use of the listed disciplinary techniques in a lesson.

DISCIPLINARY TECHNIQUES	PERCENTAGE
Encouraging the student to behave correctly	23,3
Praising appropriate behaviour	20,8
Counselling students (individual or as a group)	13,3
Giving extra work	9,2
Reprimanding students	8,3
Sending students to office for discipline	5,4
Contacting parents	4,8
Ignoring disruptive students	4,2
Isolating a disruptive student	3,5
Making students pay or repair damages caused	3,3
Extending the lesson into break time	2,6
Stop the lesson and asking students to do their own work	1,5
Walking out of the classroom	0,8

Table 4.7 The perceived use of disciplinary techniques by ranked order expressed as percentage.

4.8 Teaching methods in Geography Education

Items 1, 2, 3, 4, 5 and 6 in Part Three relate to the teachers' attitudes to the problem-solving and enquiry-based methodology; non-directive teaching, student-centred methodology; discovery learning; groupwork and interactive teaching style. Table 4.8. indicates the attitudes of the respondents towards these teaching methods.

TEACHING METHODS	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
Problem-solving and enquiry based approach	52,7	45,2	0,4	1,7
Non-directive teaching	5,7	24,3	43,3	26,7
Discovery learning	50,7	48,4	1,6	-
Student-centred methodology	77,2	22,0	0,8	-
Group work	2,8	23,5	55,7	18,0
Interactive teaching	6,1	41,7	38,1	14,1

Table 4.8 Teacher attitudes towards various interactive teaching styles.

In general, geography teachers in the Venda Education Department hold positive attitudes towards discovery methods and methods which are considered to be student-centred and enquiry-based. These are the teaching methods which the 1987 DET

geography syllabus have recommended to teachers. However, to the contrary, the majority (70%) disagree or strongly disagree with non-directive teaching. This is a teaching approach which is regarded as progressive (Ballantyne 1986). The respondents disagreed that teachers should play a low-key role in directing the learning experience of students. This attitude correlated with teacher's perceptions which indicated that in general, student work was teacher directed for 78 percent of the time. Although teachers were negative towards non-directive teaching, it was encouraging to note that 52,2 percent of these teachers disagreed or strongly disagreed that interactive teaching methods were not practical in reality. It indicated that there was a willingness to adopt such a strategy.

As the majority of the respondents felt that interactive teaching styles were practical, these teaching styles could be introduced and implemented in the geography classroom. The introduction and implementation of interactive teaching would be successful if certain difficulties identified below could be overcome and if the recommendations in Chapter 5 were implemented.

4.9 Difficulties developing an interactive teaching style

In the final section of the questionnaire teachers were asked to indicate the difficulties they experienced in developing an interactive teaching style. Approximately 16 percent of the sampled population responded to this item of the questionnaire. Responses to this open-ended questionnaire indicated that factors such as the medium of instruction, geography teacher training, time constraints, student reluctance, authorities, the shortage

of facilities and job security were all factors which made it difficult for teachers to develop an interactive teaching style.

4.9.1 Medium of instruction

About 20 percent of the respondents have indicated that most geography students were either unable or too shy to express themselves in English. Furthermore, geography teachers maintained that most of their students preferred to answer questions which required them not to use long sentences because of the language difficulties. Teachers claim that school principals and inspectors discourage teachers and students to use vernacular. This problem limits student participation in the learning experience. Furthermore, student talk is severely hampered.

4.9.2 Geography teacher training

About 6 percent of the respondents maintained that they were not fully trained to develop interactive teaching styles. As a result, they had inadequate interactive teaching skills and they did not know how they could introduce interactive teaching styles in their lessons. They maintained that they had difficulties in sustaining a dialogue once it had started.

Furthermore, the respondents had indicated that they were teaching largely as they were taught. They imitated the teaching strategies of their previous teachers who used teacher-centred teaching strategies which were transmission-reception in nature.

4.9.3 Time constraints

About 16 percent of the respondents indicated that there was insufficient time to cover the syllabus in a year. They claimed that the use of interactive teaching methods could not be beneficial to students who write public examinations as these methods require more of the lesson time.

4.9.4 Student reluctance and unreadiness

About 23 percent of the respondents claimed that an interactive teaching style was difficult to introduce to students who were used to being spoonfed. One teacher writes, " ..any method to do work in which they have to struggle to find answers is not generally acceptable. Everything ready for them is admired". The respondents maintained that when they used a more progressive teaching style, students became uncooperative. According to some teachers, some students tried to 'show off' and used the opportunity to joke with others. As a result classroom discipline might become a problem. Teachers felt that they would loose the control of their classes.

Teachers also pointed out that they would use interactive teaching style regularly if students would study topics for discussion in advance of the lesson. Teachers claimed that students were unwilling to study for discussion lessons. Students became passive receptors of knowledge and gave very little in return. Teachers have also noted that most students lacked self-confidence and tended to be quite in the classroom. The lessons ended up

being dominated by few intelligent students or by teachers who ended up answering all of their own questions.

4.9.5 Authorities

About 9 percent of the respondents maintained that interactive teaching styles encouraged noise in the classroom and that the teachers' classroom control was judged by the level of noise in the classroom. School principals and inspectors disfavoured teachers whose classes were noisy. This influenced teachers to adopt teacher-centred teaching methods.

Teachers pointed out that parents and the Department of Education judged the quality of teaching only by the pass rate of the students. As interactive teaching styles were perceived to need much more teaching, teachers were compelled rather to adopt teaching methods which enabled them to complete the syllabus.

4.9.6 Shortage of facilities

About 32 percent of the respondents pointed to the fact that their classes were overcrowded, for example, some teachers claimed that they taught classes with more than seventy students. Student involvement in the lessons in overcrowded classes is likely to be poor. The lessons were dominated by teachers and a few students. Teachers also argued that it was difficult to control disruptive student behaviour in an overcrowded classroom and consequently they preferred to use teaching methods which were directive

and teacher-centred because they tended to keep students quiet. It was also maintained that overcrowding made it difficult to detect students who were passive in the class so that if an interactive teaching style was used, it would benefit only students who were intelligent and active.

Furthermore, it was claimed that students were not used to being given extra reading materials which might stimulate their interest because of the lack of library facilities and other resources. This contributed to the students' lack of intrinsic motivation and the tendency to avoid classroom discussion.

4.9.7 Job security

About 7 percent of the respondents claimed that their students were used to teacher-centred and teacher dominated classroom activities. Some students objected to 'other' teaching strategies and as such, students could force teachers who adopted progressive teaching methods to be removed from their classes or to be told not to report at their schools again. One teacher writes, "...an interactive teaching style jeopardises the position of a teacher because he may be a victim of expulsion by students".

The researcher's experience as a student and teacher proves that in some schools, teachers who tried to adopt teaching methods other than the ones students were used to, were labelled as teachers who could not teach well and who were likely to be expelled by their students.

4.10 Summary

Sections 4.2 to 4.9 describe the perceived teaching style of secondary school geography teachers in the Venda region. Teachers seldom or never use group work or fieldwork as a teaching strategy. The textbook was the most frequently used teaching resource, the least used being films, slides, sound tapes and videos.

Teachers felt that they used an indirect teaching style because they praised and encouraged their students, they accepted student feelings and they used the ideas of students more than they lectured.

They acknowledged that they experienced difficulties in developing an interactive teaching style because of factors such as the medium of instruction, time constraints, students reluctance and unreadiness, authorities, shortage of facilities, job security and their training. However, most teachers felt that interactive teaching methods were practical. Furthermore, teachers held positive attitudes towards enquiry based teaching and student-centred methodologies.

4.11 The actual interactive teaching style of secondary school geography teachers

4.11.1 Introduction

The preceding section has highlighted the perceived teaching style of secondary school geography teachers. It has also detailed difficulties these teachers experienced in

developing an interactive teaching style. This section describes and explains the actual interactive teaching style of secondary school geography teachers in Venda.

Thirty lessons were observed by the researcher to examine the actual interactive teaching styles. A matrix for each observed lesson was compiled. Thirty matrices were used to compile a single matrix for analysis (Table 4.9). Since the total tallies in the matrix is 14 928, one can estimate that the matrix represents an average of twenty five minutes a lesson. The findings are presented in Table 4.9 below.

	1	2	3	4	5	6	7	8	9	10
1	145	-	8	39	39	7	-	6	1	22
2	2	29	75	43	29	4	-	2	3	19
3	10	29	793	178	139	8	-	23	13	43
4	12	2	4	220	60	33	1	586	1	370
5	33	6	3	319	8259	41	-	5	19	153
6	8	4	3	51	35	118	1	28	5	61
7	-	-	-	3	-	-	-	-	-	4
8	6	115	313	240	63	41	1	69	2	72
9	1	5	14	9	19	2	-	5	46	3
10	40	16	23	187	195	60	4	198	12	1018
TOTAL 14 928	257	206	1236	1289	8838	314	7	922	104	1755
COLUMN %	1,7	1,4	8,3	8,6	59,2	2,1	0,0	6,2	0,7	11,8

Table 4.9 Summary matrix showing column totals and percentages.

4.11.2 Talk in the classroom

The analysis of the matrix indicates that 88,2 percent of the time is associated with talk as compared to 11,8 percent of silence and confusion in the lessons. Of the total amount of talk, the amount of teacher talk was approximately 92,2 percent and the amount of student talk was approximately 7,8 percent. The amount of teacher talk was far higher than the perceived responses shown in the analysis of Q4 in Part Two of the questionnaire. During lesson observations, only one lesson out of thirty incorporated group work. Furthermore, fieldwork lessons were never undertaken. Responses to Q10 in Part Two of the questionnaire have also indicated that students were seldom taken out of the classroom for observation. The presence of the researcher could have influenced the use of teaching strategies that were used. By neglecting these teaching strategies, such as fieldwork and group work, student involvement in the learning process is limited (Boqwana 1991). The use of these strategies and fieldwork in particular, is an effective way to increase student talk and involvement (ibid 1991).

4.11.2.1 The nature of secondary school geography teacher talk

Table 4.10 below reflects the actual geography teacher talk in the classroom.

FIAC	PERCENTAGE
Accept feeling	2,1
Praises or Encourages	1,7
Accepts or Uses the ideas of student	10,1
Asks questions	10,6
Lectures	72,8
Gives direction	2,8
Criticises or justifies authority	0,1

Table 4.10 The total amount of teacher talk that fall in each category of teacher talk expressed as percentage.

The table above indicates that 72,8 percent of the lesson time was spent on teacher talk and was associated with category 5 (lecture). Less time was spent on category 7 (criticises or justifies authority) because as Table 4.13 below indicates, the students did not present disciplinary problems.

The total amount of teacher talk also indicated whether the teacher's approach was direct or indirect in their teaching style. In this study the sum of the columns of indirect categories 1 through to 4 in Table 4.9 was compared with the sum of the direct category columns 5 through to 7 to determine how much of the time teachers were being direct and how much of the time teachers were being indirect. As a result of this comparison, teachers were found to have spent 75,4 percent of time on direct talk and 24,6 percent of time on indirect talk. This differed with their perceived direct and indirect teaching practice in Table 4.4.

The analysis of Table 4.10 shows that teachers had lectured 72,8 percent of the time and had asked questions 10,6 percent of the time. The 'Content Cross' indicates extensive lecturing or questioning. Most of the time when teachers talk to classes, they are either telling something to the class (category 5) or asking a question (category 4) (Flanders 1974).

A. Teacher talk and the "Content Cross"

Table 4.11 below indicates the content cross of observed lessons.

	1	2	3	4	5	6	7	8	9	10
1				39	39					
2				43	29					
3				178	139					
4	12	2	5	220	60	33	1	586	1	370
5	33	6	3	319	8259	41	-	5	19	151
6				51	35					
7				3	-					
8				240	63					
9				9	19					
10				187	195					

Table 4.11 The content cross.

The 'content cross' is a reflection of the teaching style (Ramsey 1974). Table 4.11 is called the 'content cross' because it only shows teacher talk associated with categories 4 and 5 (Amidon and Flanders 1967). These are categories related to the subject matter being taught. Only questions asked on the subject matter were coded in category 4 (asks questions) whilst rhetorical questions were coded in category 5 (lectures) (ibid 1967). The table reflects that the total tallies in the content cross was 11 395, whilst total tallies not in the content cross amounted to 3 533. Analysis of this table shows that most of teacher talk was spent giving extended information as 5-5 cell has a high frequency of tallies. Cell 4-8 is the second cell with the largest tallies and this indicates that teachers were also asking questions while lecturing. As most tallies lie inside the content cross, it indicates that the observed teachers were not flexible. Flanders argues "... the more flexible the teacher, the more tallies there are likely to lie outside the content cross" (Flanders 1974 p54).

According to Ramsey (1974) tallies in the 4-5 cell indicate that teachers answered some of their questions. The tallies in the 4-9 cell indicate unexpected responses to teacher questions, tallies in the 3-5 cell indicate the use of student ideas as a stepping stone for lecturing by teachers and tallies in the 3-4 cell represent the use of student ideas as a basis for questioning. In Table 4.12 the sixty tallies in the 4-5 cell show that teachers answered some of their own questions; 139 tallies in the 3-5 cell indicates that teachers used student ideas as a stepping stone for lecturing; and 178 tallies in the 3-4 cell indicates that teachers used student ideas as a basis for questioning.

B. Extended indirect or encouragement offered by secondary school geography teachers

Table 4.12 below indicates extended indirect or encouragement offered by secondary school geography teachers.

	1	2	3	4	5	6	7	8	9	10
1	145	-	8							
2	2	29	75							
3	10	29	793							
4										
5										
6										
7										
8										
9										
10										

Table 4.12 Extended indirect influence.

The total tallies in Table 4.12 is 1 091, against a grand total of 13 837. 1 091 tallies describes the amount of time of which teachers accepted student feelings, used praise or used student ideas for longer than three seconds (Ramsey 1974). These behaviours reinforce student talk (Flanders 1974). Analysis of the table indicates that encouragement offered by teachers was limited to a few tallies. Only 1,7 percent of the total amount of teacher talk used praise or encouragement behaviour.

C. Extended direct influence through command and influence behaviours by secondary school geography teachers

Table 4.13 below indicates extended direct influence through command and influence behaviours by secondary school geography teachers.

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6						118	1			
7						-	-			
8										
9										
10										

Table 4.13 **Extended direct influence.**

Flanders (1974) calls the scenario the "vicious cycle" because it indicates a cycle of maladaptive behaviours occurring in the classroom. Analysis of the table shows that there is a clustering of the tallies. This indicates that the observed teachers did not have

problems with student discipline. It could be argued that students did not show signs of maladaptive behaviours and that they were satisfactorily complying with their teachers (ibid 1974). Observed teachers did not have problems with discipline because their responses to the questionnaire reflected that disciplinary techniques such as counselling, praising of appropriate behaviour and encouraging student to behave correctly are the frequently used (56,4%). These disciplinary techniques promote a warm classroom atmosphere because they do not cause students to be rebellious towards the teacher (Jackson 1991, Tanner 1978).

A comparison of Table 4.12 and Table 4.13 indicates that observed teachers used extended indirect or encouragement behaviours more than extended direct influence through command and influence behaviours. However, to the contrary, an analysis of extended indirect or encouragement offered (Table 4.12), shows that student contributions were not being reinforced by the teachers.

4.11.1.2 The nature of secondary school geography student talk

It is interesting to note the limited amount of student talk (7,8%) in the classroom, compared to amount of student talk initiated by teachers (89,9%) and the amount of talk initiated by students themselves (10,1%). This confers with responses to Q13 in part two of the questionnaire which reflected that student work was teacher directed for 72 percent of the time.

In general, students talk was limited and occurred only after teachers triggered their participation. Most student statements were of a short duration. The amount of sustained or extended student talk was approximately 11,2 percent. This could be due to the medium of instruction or other problems identified in section 4.9 above.

A. Geography student talk following teacher talk

Table 4.14 below indicates the amount of geography student statements triggered by teacher talk and those initiated by students themselves.

	1	2	3	4	5	6	7	8	9	10
1								6	1	
2								2	3	
3							A	23	13	
4								586	1	
5								5	19	
6								28	5	
7								-	-	
8							B	69	2	
9								5	46	
10								198	14	

Table 4.14 Student Talk Following Teacher Talk.

Total tallies in Area A is 692, whilst total tallies in Area B is 334. An analysis of Table 4.14. indicates that Area A has large tallies in the 4-8 cell. This indicates drill lessons which encouraged memorization rather than understanding (Shipley et al 1972). This is shown by the fact that teachers asked questions and students responded quickly with short statements. A Comparison between 8-8 cell and 9-9 cell indicates that extended or

sustained student talk was of short duration because 8-8 cell and 9-9 cell total 65 and 46 respectively. Further analysis of 8-8 cell, 8-9 cell, 9-8 cell and 9-9 cell indicates that student responses were of a short duration as indicated by a low frequency. Only 11,6 percent of secondary school geography student talk was sustained talk, whilst 88,4 percent of the student talk was unsustained. Lengthy student statements and student-to-student interaction was limited to 11,6 percent of the total amount of student talk. One reason for this situation may be due to the way their teachers responded to their comments.

B. Secondary school geography teacher response to student comments

Table 4.15. below indicates teacher responses to student comments.

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7		A				B				
8	6	115	313	240	63	41	1			
9	1	5	14	9	19	2	-			
10										

Table 4.15 Teacher Response to Student Comments.

The manner in which teachers respond to the student's statements is important in sustaining interaction (Wragg et al 1976). Table 4.15 above indicates whether the teachers responded to student statements with acceptance or rejection.

The total tallies in Area A which represents the indirect responses to student comments totalling 703. Area B represents the direct responses to student comments totalling 126. This indicates that secondary school geography teachers have responded to 84,8 percent of student statements indirectly and to 15,2 percent of student statements directly.

Furthermore, it is essential to determine whether secondary school geography teachers responded to their student statements with acceptance or rejection. The sum of tallies in cells 8-1, 8-2, 8-3, 9-1, 9-2 and 9-3 were compared with the sum of tallies in cells 8-7 and 9-7. Their analysis indicates that observed teachers responded to 99,8 percent of student statements with acceptance and to 0,2 percent of student statements with rejection.

Using these findings, one can argue that the way in which observed teachers responded to their students' statements encouraged students to talk more in the classroom. These teachers have accepted student feelings, praised or encouraged, and accepted or used ideas of their students more than they have criticized the students. However, the encouragement offered was too low in comparison with the total amount of tallies in Table 4.9, hence student talk was low. It is imperative to determine what causes students to talk less in the classroom.

Table 4.16. below shows Steady-State cells which indicate that specific kinds of communication which were being used for extended periods. An analysis of this matrix will indicate why there was less student talk in the geography classroom and that the observed teachers were more ‘direct’ in their teaching approach.

C. The cause of less student talk in the geography classroom

Table 4.16 below explains the cause of less student talk in the geography classroom.

	1	2	3	4	5	6	7	8	9	10
1	145									
2		29								
3			793							
4				220						
5					8259					
6						118				
7							-			
8								69		
9									46	
10										1018

Table 4.19 Steady - State Cells

An analysis of the 5-5 cell in Table 4.16. indicates that it has large tallies. This suggests that observed teachers were practising ‘chalk and talk’ teaching methods. This reduced students participation in the learning experience hence there was less student talk and teachers were ‘direct’ in their teaching approach. Further analysis shows that the tempo

of exchange between these teachers and the students was of a short duration as the 8-8 cell and the 9-9 cell have lower frequencies than the 5-5 cell (Flanders 1974). This also suggests that teachers and students were unable to continue sustain interaction once it had started, a norm in drill periods. Drill lessons are lessons which encourage students to commit to memory what they are learning (Shipley et al 1972). In these lessons student have limited opportunity for expressing their opinions and thoughts.

4.12 Differences between perceived and actual teaching styles of secondary school geography teachers

The perceived and actual teaching styles of secondary school geography teachers differ. An analysis of item D14 of the questionnaire (Appendix 4) and the matrix (Table 4.9) indicates the differences expressed as percentages

FIAC	PERCEIVED INTERACTIVE TEACHING STYLE	ACTUAL TEACHING STYLE	DIFFERENCES BETWEEN PERCEIVED AND ACTIVE TEACHING STYLE
Accepts feelings	14,4	1,7	12,7
Praises or Encourages	18,6	1,4	17,2
Accepts or Uses the ideas of student	14,4	8,3	6,1
Asks questions	18,4	8,6	9,8
Lectures	2,5	59,2	56,7
Gives direction	15,0	2,1	12,9
Criticises or Justifies authority	2,7	-	2,7
Solicited student talk	-	6,2	6,2
Unsolicited student talk	9,2	0,7	8,5
Silence	7,0	11,8	4,8

Table 4.17 The differences between the perceived and the actual teaching styles.

Table 4.17 shows that the perceived amount of a lecturing style was ranked the lowest (2,5%). Yet the actual use of a lecturing style was the highest (59,2%). The percentage of the actual use of the lecture category increased to 72,8 percent of time when taking into account the amount of time spent only on each category of teacher talk. The perceived use of the accepts feelings, praises or encourages, and accepts or uses ideas of students categories indicated that the teachers were 'indirect' in their teaching approach. By indirect teaching approach it is meant that teachers spend more time accepting feelings, praising and encouraging students, accepting and using ideas of students (Flanders 1970). The actual use of these categories indicated that the observed teachers were 'direct' in their teaching approach. By direct teaching approach it means that teachers spend more time lecturing, giving directions and commands, and criticising and justifying authority (ibid 1970).

Analysis of Table 4.17 reflects that the perceived teaching styles of observed secondary school teachers of geography conflicts with what is actually happening in the classroom.

4.13 The principal components of the study

Factor analysis of the questionnaire revealed the following principal components of the study:

- (a) There was correlation between gender and the highest standard taught. Responses indicated that most female teachers taught junior classes whilst the majority of male teachers taught senior classes.
- (b) Most students are seated in individual chairs or in pairs. Only few are seated in groups of three or more.
- (c) There is strong agreement amongst the teacher regarding the use of films, slides, sound tapes and video in all the classrooms. These were the least used teaching resources in the geography classroom in the Venda Education Department. There was also a similar correlation in the use of wall maps, atlases, photographs and pictures.
- (d) The teachers all used similar disciplinary techniques in behaviour modification
- (e) Most teachers felt that discovery methods would give students the opportunity to become active participants in the learning process and that this should constitute a significant part of the geography teacher's strategy.

4.14 Summary

Sections 4.10 and 4.11 described the actual interactive teaching style using Flanders Interactive Analysis Categories as a diagnostic tool. 'Chalk and talk' was found to be the most dominant activity in the classroom. An analysis of the matrix (Table 4.9) indicates

that there was more teacher talk than student talk. Observed teachers used category 5 (lectures) more than any other category. They were direct in their teaching approach. The most encouraging factor was that teachers responded to the few students' statements with acceptance. They responded to students' statements indirectly because they praised and encouraged the students, and accepted and used students' ideas. Student talk was found to be infrequent and unsustained. Lastly, the chapter revealed the difference between the perceived and the actual teaching styles. Teachers perceived that they lectured for only 2,5 percent of the time, whilst their actual teaching style reflected that they lectured 59,2 percent of the time. Teachers' talk alone amounted to 72,8 percent of the lesson time.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study attempted to examine the teaching styles using the Flanders interactive analysis as a diagnostic tool. The objectives of the study were:

- (a) to establish the perceived teaching styles used by geography teachers in Venda;
- (b) to examine the actual interactive teaching styles using Flanders Interactive Analysis;
- and
- (c) to describe and explain any differences between perceived and actual teaching style.

To achieve this the researcher had to consider:

- (a) the nature of geography education;
- (b) action research and the Flanders system as an action research tool; and
- (c) the perceived interactive teaching style based on the Flanders system;
- (d) the actual interactive teaching styles.

5.2 The nature of geography education

In Chapter Two a review of literature was undertaken. It revealed that the nature of geographical education has changed from a subject which described and interpreted cultural and physical phenomena of the world to a subject which emphasizes the understanding of concepts, development of skills, and the clarification of values and attitudes. Geography education has become more scientific in its approach to the description and explanation of location. It has become a thought-provoking subject which challenges students intellectually and which develops students' attitudes and values. This change in emphasis has necessitated a change in teaching methodology. Teaching methodologies appropriate to the 'new' geography are methods which are considered to be non-directive, enquiry-based and student centred. However, these methodologies are not widely used in South Africa. Changing the status quo requires an understanding and a familiarity with the learning process taking place in the classroom. It has been suggested that action research and the use of the Flanders system as an action research tool could change the status quo.

5.3 The perceived teaching style

The questionnaire administered to secondary school geography teachers revealed that:

(a) teachers seldom used interactive teaching strategies such as group work and fieldwork as recommended by the 1987 DET standard 10 geography syllabus

(b) textbooks were the most frequently used teaching resources in the Venda Education Department. Interactive teaching resources such as slides, films, video films and sound tapes were seldom or never used

(c) teachers were indirect in their teaching approach because they felt that they frequently identified student feeling, praised or encouraged students, and accepted and used the ideas of students

(d) teachers felt that they seldom or never lectured to their students

(e) in dealing with behaviour modification teachers frequently encouraged their students to behave correctly, praised appropriate behaviour and counselled students

(e) most respondents felt that interactive teaching methods were a practical possibility. This indicated that there was a willingness to adopt the teaching strategy

(f) factors such as the medium of instruction, geography teacher training, time constraints, student reluctance, authorities, the shortage of facilities and job security all posed difficulties for teachers to develop an interactive teaching style

5.4 The actual teaching style

The matrix compiled from thirty observed lessons indicated that:

- (a) geography lessons were dominated by teacher talk. The most frequently used category of teacher talk was the lecturing
- (b) student talk was of short duration and unsustained. The students responded to the teachers questions quickly with short statements. Teachers responded to most of the statements with acceptance
- (c) in general, secondary school geography students in the Venda Education Department did not show any maladaptive behaviours

5.5 Recommendations

- (a) Teachers should be encouraged to undertake action research as a way of reflecting on their teaching style (Davidoff and van der Berg 1990). This will enable them to innovate and initiate change in their teaching behaviour.
- (b) The formation of geography associations in the different inspection areas could enable a group of teachers to work co-operatively when undertaking action research.

(c) The teacher training institutions should offer courses on how to introduce and administer interactive teaching (Amidon and Hough 1967). This would enable student-teachers to become aware of interactive teaching styles and strategies to involve students in the learning experience.

(d) The in-service training centres should offer courses on interactive teaching (Morrison and McIntyre 1972).

(e) Well qualified and experienced geography teachers could help other teachers to improve their teaching of geography. A team of experienced geography teachers could work alongside a team of teachers in a sustained relationship alongside other interested parties like subject advisers and university or college geography departments.

(f) Interactive teaching in geography education should be introduced as early as possible. Students should be encouraged to participate in fieldwork, group discussions and activities (Boqwana 1991).

5.7 Conclusion

This study has identified that there are many factors which contribute to extensive use of 'chalk and talk'. Unless these factors are overcome, educators will still experience difficulties in developing an interactive teaching style. There is a pressing need for all stakeholders in education to be involved in finding solutions to these problems.

Nevertheless, the implementation of interactive teaching methods is certain to increase and develop student talk, would encourage student involvement in the learning process.

LIST OF REFERENCES

- Amidon, E. and Flanders, N. 1967 Interaction Analysis as a Feedback System, in Amidon, E.J. and Hough, J.B. (eds) Interaction Analysis : Theory and Application, Addison-Wesley, Reading.
- Amidon, E.J. and Hough, J.B. (eds) 1967 Interaction Analysis: Theory and Application, Addison-Wesley, Reading.
- Anderson, L.W. 1988 Attitude Measurement, in Keeves, J.P. (ed) Educational Research, Methodology, and Measurement : An International Handbook, Pergamon, Oxford.
- Anderson, R.D.; Struthers, J.A. and James, H.H. 1974 The Teaching Strategies Observation Differential, in Stanford, G. and Roark, A.E. (eds) Human Interaction in Education, Allyn and Bacon, Boston.
- Ashley, M.J. 1976 The British Influence on Education in South Africa, in de Villiers, A. (ed) English-speaking South Africa Today, Oxford University Press, Cape Town.
- Ashley, M. 1989 Ideologies and Schooling in South Africa, S.A.T.A., Rondebosch.
- Ashley, M.J. 1992 South African Education in the 1990's, Education Futures Project, The Urban Foundation and the Mobil Foundation.

- Bailey, P. 1974 Teaching Geography, David and Charles, University of Leicester.
- Bailey, P and Binns, J.A. (eds) 1987 A Case for Geography, Geographical Association, Sheffield.
- Bales, R. and Strodtbeck, F. 1967 Phases in Group Problem-Solving, in Amidon, E.J. and Hough, J.B. (eds) Interaction Analysis: Theory and Application, Addison-Wesley, Reading.
- Ballantyne, R.A. 1982 Geography Curriculum Development - The Need for School-based Research, South African Geographer, 10 (1) pp.73-76.
- Ballantyne, R. and Attwell, M. 1985 Environmental Education in Geography: The Role of Urban Trails, South African Geographer, 13 (1) pp.75-87.
- Ballantyne, R.R. 1986 Change in Secondary School Geography Education: Teacher Attitude and Practices, Unpublished Ph.D dissertation, University of Cape Town.
- Ballantyne, R.R. 1987 Graves' Typology and Geography in South African Secondary Schools, South African Geographical Journal, 15 pp.109-115.
- Ballantyne, R.R. 1990 Cultural Background and the Nature of Geography Education in South Africa, South African Geographer, 17 pp.124-128.

- Ballantyne, R.R. 1992 Geography Teacher Socialization: Attitude and Practice change, South African Journal of Education, 12 (1) pp.1-7.
- Barrow, R. and Milburn, G. 1986 A Critical Dictionary of Educational Concepts, St Martins, New York.
- Beddis, R. 1983 Geographical Education since 1960 : A Personal View, in Huckle, J. (ed) Geographical Education: Reflection and Action, Oxford University Press, Oxford.
- Bennett, N. 1976 Teaching Styles and Pupils Progress, Open Books, London.
- Best, J.W. 1977 Research in Education, Prentice-Hall, New Jersey.
- Binns, T. 1992 At the Chalk Face : Teaching Geography in the United Kingdom, in Rogers, A.; Viles, H.; Goudie, A. (eds) The Student's Companion to Geography, Blackwell, Oxford.
- Brown, L.; Henry, C.; Henry, J. and McTaggart, A. 1982 Action Research: Notes on the National Seminar, School of Education, Deakin University.
- Boden, P. 1976 Developments in Geography Teaching, Open Books, London.

- Boqwana, E.P. 1991 Fieldwork as a compensatory teaching strategy for rural black senior secondary schools, unpublished M.Ed. dissertation, Rhodes University, Grahamstown.
- Bowen, P. 1980 Classroom Approaches for the 14-19 Year Old, in Rawling, E. (ed) Geography into the 1980s, The Geographical Society, Sheffield.
- Byrne, D. 1987 Techniques for Classroom Interaction, Longman, London.
- Carr, W. and Kemmis, S. 1986 Becoming Critical : Education, Knowledge and Action Research, Falmer, London.
- Cox, B. 1984 Making Inquiries Work in the Geography Classroom, in Fien, J.; Gerber, R. and Wilson, P. (eds) The Geography Teacher's Guide to Classroom, MacMillan.
- Cox, B. 1988 Reflections on Teaching Geography for a Better World, in Fien, J. and Gerber, R. (eds) Geography for a Better World, Oliver and Boyd, Brisbane.
- Craig, J.K. 1979 Geography and Intelligence, South African Geographer, 7 (1) pp.65-69.
- Davidoff, S. and van den Berg, O. 1990 Changing your Teaching, Centaur, University of Cape Town.

- Davies, D.H. 1987 School Geography : A University Perspective, South African Geographer, 15 (12) pp.116-126.
- Delamont, S. 1976 Beyond Flanders' Field : The Relationship of Subject Matter and Individuality to Classroom Style, in Stubbs, M. and Delamont, S. (eds) Explorations in Classroom Observation, John Wiley, London.
- Delamont, S. and Hamilton, D. 1976 A Classroom Research: A Critique and a New Approach, in Stubbs, M. and Delamont, S. (eds) Explorations in Classroom Observation, John Wiley, London.
- Denscombe, M. 1976 The Hidden Pedagogy and its Implications for Teacher Training, British Journal of Sociology of Education, 3 (3) pp249-265
- Drummond, J.H and Paterson, A.N.M. 1991 Apartheid and Geography Textbooks, Perspectives in Education, 12 (2) pp.65-76.
- Earle, J.L. 1974 Toward Better Evaluation in Secondary School Geography, South African Geographer, 4 (4) pp.347-351.
- Earle, J. 1976 The New Geography Syllabus : From Birth to Infancy, South African Geographer, 5 (3) pp.263-265.

Fien, J. 1983 Humanistic Geography, in Huckle, J. (ed) Geographical Education: Reflection and Action, Oxford University Press, Oxford.

Fien, J. Gerber, R. and Wilson, P. (eds) 1984 The Geography Teacher's Guide to the Classroom, Mcmillan.

FitzGerald, B.P. 1973 Trends in Geographical Teaching, in Bale, J.; Graves, N. and Walford, R. (eds) Perspectives in Geographical Education, Oliver and Boyd, Edinburgh.

FitzGerald, B.P. 1974 Developments in Geographical Method, Oxford University Press, London.

Flanders, N.A. 1967 Intent, Action and Feedback : A Preparation for Teaching, in Amidon, E.J. and Hough, J.B. (eds) Interaction Analysis : Theory and Application, Addison-Wesley, Reading.

Flanders, N.A. 1970 Analyzing Teaching Behaviour, Addison-Wesley, Reading Mass.

Flanders, N.A. 1972 Interaction Analysis and Inservice Training, in Morrison, A. and McIntyre, D. (eds) The Social Psychology of Teaching, Penguin, Middlesex.

- Flanders, N.A. 1974 Flanders System of Interaction Analysis, in Simon, A. and Boyer, E.G. (eds) Mirrors for Behaviour III: An Anthology of Observation Instruments, Communication Materials Center, Pennsylvania.
- Fox, D.J. 1969 The Research Process in Education, Holt, Rinehart and Wiston, New York.
- Galton, M. 1988 Structured Observation Techniques, In Keeves, J.P. (ed) Educational Research, Methodology, and Measurement : An International Handbook, Pergamon, Oxford.
- Garson N.G. 1976 English-speaking South Africans and the British Connection: 1820 - 1961, in de Villiers, A. (ed) English - speaking South Africa today, Oxford University Press, Cape Town.
- Good, C.V. 1972 Essentials of Educational Research, Appleton-Century-Crofts, New York.
- Graves, N.J. 1965 Teaching Techniques: Direct Observation, in UNESCO Source Book for Geography Teaching, LongmansUNESCO, London.
- Graves, N.J. (ed) 1982 New UNESCO Source Book for Geography Teaching, Longmans, London.

Graves, N.J. 1984a Geography in Education, Heinmann, London.

Graves, N.J. (ed) 1984b Research and Research Methods in Geographical Education,
University of London.

Grundy, S. 1987 Curriculum : Product or Praxis?, Falmer, London.

Gunn, A.M. 1974 Teaching Strategies for the New Geography, South African Geography,
4 (5) pp.448-451.

Hall, D. 1984 Knowledge in the Geography Classroom, in Fien, J.; Gerber, R. and
Wilson, P. (eds) The Geography Teachers' Guide to the Classroom, MacMillan.

Hanaire, A. 1965 Teaching Material, in UNESCO Source Book for Geography Teaching,
LongmansUNESCO, London.

Hanson, J. 1975 The Use of Resources, George Allen and Unwin, London.

Hartshorne, K. 1989 The State, Democracy and the Education of Black South Africans,
in Politics and Education, Human Science Research Council, Education
Research Programme, No.16.

Hartshorne, K. 1992 Foreword, in McGregor Robin and Anne (ed) McGregor's
Education Alternatives, Juta, Kenwyn.

Henning, J. 1984 The Curriculum and Geography, South African Geographical Journal, 66 (1) pp.3-15.

Hertz-Lazarowits, R. 1990 An Integrative Model of the Classroom : The Enhancement of Co-operation in Learning, Paper Presented at the Annual Meeting of the American Educational Research Association, Boston.

Hewson, J.A. 1972 The American High School Geography Project, South African Geographer, IV (8) pp.88-91.

Higginbottom, T. 1980 Geography for the Young school Leaver, in Rawling, E. (ed) Geography into the 1980s, The Geographical Society, Sheffield.

Hills, P.J. (ed) 1982 A Dictionary of Education, Routledge, London.

Hofmeyr, J. and Buckland, P. 1992 Education System in South Africa, in McGregor, Robin and Anne. (eds) McGregor's Education Alternatives, Juta, Kenwyn.

Hofmeyer, J. and Jaff, R. 1992 The challenge of Inset in the 1990s, in McGregor, Robin and Anne. (eds) McGregor's Education Alternatives, Juta, Kenwyn.

Hook, C. 1981 Studying Classrooms, Deakin University, Victoria.

- Hopkins, D. 1985 A Teacher's Guide to Classroom Research, Open University Press, Philadelphia.
- Hough, J.B. 1967 An Observation System for the Analysis of Classroom Instruction, in Amidon, E. J. and Hough, J.B. eds) Interaction Analysis : Theory and Practice, Addison-Wesley, Reading.
- Huckle, J. (ed) 1983 Geographical Education : Reflection and Action, Oxford University Press, Oxford.
- Huckle, J. (ed) 1983 The Politics of School Geography, in Huckle, J. (ed) Geographical Education: Reflection and Action, Oxford University Press, London.
- Hurry, L.B. 1987 Geographical Perspectives? Ecological Perspectives, South African Geographer, 14 (12) pp.101-106.
- Jackson, D. (1991) Discipline without Anger or Tears, Tafelberg, Cape Town.
- Johnson, D.L. 1974 The Hill Interaction Matrix, in Stanford, G. and Roark, A.E. (eds) Human Interaction in Education, Allyn and Bacon, Boston.
- Johnston, R.J. 1979 Geography and Geographers : Anglo-American Human since 1945, Edward Arnold, London.

Johnston, R.J. 1985 Geography in the 1980s, in Kent, A. (ed) Perspective on a Changing Geography, Geographical Association, Sheffield.

Joint Matriculation Board, 1983 Final Core Syllabus Guide for Geography standards 8, 9 and 10 pp2-21

Joseph, K. 1985 Geography in the School Curriculum, Geography, 70 pp.290-297.

Keeves, J.P. 1988 Longitudinal Research Methods, in Keeves, J.P. (ed) Educational Research, Methodology, and Measurement : An International Handbook, Pergamon, Oxford.

Kemp, R. 1986 Diverse Abilities, in Broadman, D. (ed) Handbook for Geography Teachers, The Geographical Association, Sheffield.

Kohn, C.F. 1982 Real Problem Solving, in Graves, N.J. (ed) New UNESCO Source Book for Geography Teaching, LongmanUNESCO.

Kruger, A.G. and Schalkwyk 1993 Classroom Management, Academia, Pretoria.

Ledger, R.H. 1978 The 'New' Geography in South African High School Teaching, Unpublished M.A. Dissertation, University of Cape Town.

- Levy, B.H. 1984 Geographical Teaching in South African Schools for Whites (1800 - 1980), Unpublished Masters thesis, University of Witwatersrand.
- Magi, L.M. 1981 Black University Geography Students' Perception of School Geography and the Geography Teacher, South African Geographer, 9 (2) pp.145-153.
- Magi, L.M. 1991 Geography in Society : The Site of Struggle, University of Zululand Press, Ulundi.
- Marker, M.E. 1970 School Geography Through Fieldwork, Journal for Geography, III (7) pp.773-778.
- Maye, B. 1984 Developing Valuing and Decision Making Skills in the Geography Classroom, in Fien, J.; Gerber, R. and Wilson, P (eds) The Geography Teacher's Guide to the Classroom, MacMillan.
- Micceri, T. 1990 Consistent Patterns in Observed Teacher Performance : Results from a Large-Sample Multi-Year Study, Paper Presented at the Annual Meeting of the American Educational Research Association, Boston.
- Mminele, S.P.P. 1979 The Teacher's Basic Tasks and Effective Teaching Methods that Go with them, Educamus, 25 pp.36-39.

Mniki, C.P. 1987 A Survey of the Curricula for the Pre-service Education of Secondary School Geography Teachers in South Africa, with Special Reference to Transkei, Unpublished Med Dissertation, Rhodes University.

Morrison, A. and McIntyre, D. 1969 Teachers and Teaching, Penguin, Middlesex

Morrison, A. and McIntyre, D. (eds) 1972 The social psychology of teaching, Penguin, Middlesex.

Mphaphuli, S.E. 1992 A Search for Educational Relevance: An Investigation into the Teaching of the Rural Settlement component of the Secondary School Syllabus with Special Reference to Venda, Unpublished Med Dissertation, Rhodes University, Grahamstown.

Nacino-Brown, R.; Oke, F.E. and Brown, D.P. 1982 Curriculum and Instruction, MacMillan.

Naish, M. 1980 Geography for the 16-19 Year Old, in Rawling, E. (ed) Geography into the 1980s, The Geographical Society, Sheffield.

Naish, M.C. 1982 Mental Development and the Learning of Geography, in Graves, N.J. (ed) New UNESCO Source Book for Geography Teaching, Longman.

NATED 02-300 (9207) Report, 1992 Education Realities in South Africa 1991,

Department of National Education, Pretoria.

Nicol, I.G. 1974 Geography Teaching for the Seventies, South African Geographical Journal, 56 (2) pp.105-110.

Nicol, I.G. 1979 The Evaluation of High School Geography, South African Geographer, 7 (1) pp.70-79.

Nightingale, C.S. 1974 A Teacher Muses on the Requirements of a Good School Geography Textbook, South African Geographer, 4 (5) pp.445-447.

Nightingale, C.S. 1980 Case Studies, South African Geographer, 8 (2) pp.161-163.

Nightingale, C.S. 1984 Settlement Geography : A Course for Teachers, Cape Province Administration Publication, Department of Cape Education.

Nightingale, C.S. 1985 The New School Geography Syllabus - A Missed Opportunity, South African Geographer, 13 (1) pp.89-91.

Ober, R.L.; Bentley, E.L. and Miller, E. 1971 Systematic Observation of Teaching, Prentice-Hall, New Jersey.

- Page, G.T. and Thomas, J.B. 1977 International Dictionary of Education, Kogan Page, London.
- Pattison, W.D. 1973 The Four Traditions of Geography, in Bale, J.; Graves, N. and Walford, R. (eds) Perspective in Geographical Education, Oliver and Boyd, Edinburgh.
- Pinchemel, P. 1982 The Aims and Values of Geographical Education, in Graves, N.J. (ed) New UNESCO Source Book For Geography Teaching, Longman, London.
- Preston-Whyte, R.A. 1983 Environmentalism in Geography: The Missing Link, South African Geographical Journal, 65 (1) pp.2-12.
- Ramsey, A. 1974 The Flanders System of Interaction Analysis, in Stanford, G. and Roark, A.E. (eds) Human Interaction in Education, Allyn and Bacon, Boston.
- Rawling, E. (ed) 1980 Geography into the 1980s, The Geographical Association, Sheffield.
- Republic of Venda, The, 1979 Chris van Rensburg, Johannesburg.
- Roark, A.E. 1974 Dimensions of Psychological Distance, in Stanford, G. and Roark, A.E. (eds) Human Interaction in Education, Allyn and Bacon, Boston.

- Roberts, M. 1991 On the Eve of the Geography National Curriculum: The Implication for Secondary Schools, Geography, 70 pp.331-342.
- Robinson, R. 1989 The National Curriculum : a place for development and Global Coverage? Teaching Geography, 14 (3) pp.111-113.
- Rowntree, D. 1981 A Dictionary of Education, Harper and Row, London.
- Samph, T. 1976 Observer Effects on teacher Verbal Classroom Behaviour, Journal of Educational Psychology, 68 (6) pp.736-741.
- Shipley, C.M.; Cann, M.M.; Hildebrand, J.F.T; and Mitchell, G.T. 1972 A Synthesis of Teaching Methods, McGraw-Hill Ryerson, Toronto.
- Simon, B. 1985 Does Education Matter?, Lawrence and Wishart, London.
- Simon, A. and Boyer, E.G. (eds) 1974 Mirrors for Behaviour III: An Anthology of Observation Instruments, Communication Materials Center, Pennsylvania.
- Slater, F. 1982 Learning through Geography, Heinemann, London.
- South African Institute of Race Relation Survey 198990.
- South African Institute of Race Relation Survey 199192.

South African Institute of Race Relation Survey 199293.

Stubbs, M. and Delamont, S. (eds) 1976 Explorations in Classroom Observation, John Wiley, London.

Stallings, J.A. and Mohlma, G.G. 1988 Classroom Observation Techniques, in Keeves, J.P. (ed) Educational Research Methodology, and Measurement: an Interaction Handbook, Pergamon, Oxford.

Stanford, G. and Roark A.E. (eds) 1974 Human Interaction in Education, Allyn and Bacon, Boston.

Stiltner, B. 1974 The Barrett-Lennard Relationship Inventory in Education, in Stanford, G. and Roark, A.E. (eds) Human Interaction in Education, Allyn and Bacon, Boston.

Stone, H.J.S. 1985 Report on an Investigation into the Structure and Functioning of the Provision of Education under the Administration of the House of Assembly, Volume 1, Department of Education and Culture, House of Assembly.

Stones, E. 1979 Psychopedagogy : Psychological Theory and the Practice of Teaching, Methuen, London.

Storm, M. 1983 The Geography Curriculum in the 1980s, in Huckle, J. (ed) Geographical Education: Reflection and Action, Oxford University Press, London.

Syllabus for Geography 1987 Standard 10, Department of Education and Training.

Tait, N.C. 1982 A Touch of Geography, Inaugural Lecture Delivered on Accepting the Chair of Geography at the University of the North, Pietersburg.

Takalo, M. 1991 "Narration Sickness" in our Classroom, Educamus, 37 pp.14-15.

Tanner, L.N. 1978 Classroom Discipline for Effective Teaching and Learning, Holt, Rinehart and Wiston, New York.

Thomas, P.R. 1973 Education and the New Geography, in Bale, J.; Graves, N. and Walford, R. (eds) Perspectives in Geographical Education, Oliver and Boyd, Edinburgh.

Thorpe, C.P. 1991 Geography in the Secondary School, Journal of the Natal Geographical Association, 5 pp.25-28.

Tidswell, V. 1990 Capes, Concepts and Conscience : Continuity in the Curriculum, Geography, 75 pp.302-312.

- Trumpelmann, M.H. 1991 The Joint Matriculation Board, National Book, Goodwood, Cape.
- van Dalen, D.B. and Myer, W.J. 1966 Understanding Educational Research, McGraw-Hill, New York.
- van der Merwe, A.J. 1982 Geography in the South African Curriculum in Relation to Developments in the Teaching of the Subject Overseas, Unpublished Med Dissertation, Rhodes University, Grahamstown.
- van der Walt, 1985 Aspects on the Testing Abilities in Geography, Educamus, 31 pp.7-10.
- van Rensburg, C. 1975 Stepping into the Future : Education for South Africa's Black, Coloured, and Indian Peoples, Erudita, Johannesburg.
- Verma, G.K. and Beard, R.M. 1981 What is Educational Research? Perspectives on Techniques of Research, Gower, Hants.
- Walford, R. 1985 Geography and the Future, in King, R. (ed) The Geographical Association, Sheffield.
- Walker, M. 1989 Action Research as a Project, Primary Education Project, University of Cape Town.

- Walker, M. 1990 Action Research in South African Schools: Gilding Gutter Education on Transforming Teaching, Perspectives in Education, II (2) pp.57-64.
- Walker, R. and Adelman, C. 1986 Interaction Analysis in Informal Classroom : A Critical Comment on the Flanders' System, in Hammersley, M. (ed) Controversies in Classroom Research, Open University, Philadelphia.
- Wesso, H.M. 1992 The Colonisation of the Geographical Mind:A Critical Contextual Analysis of they Institutionalisation and Establishment of Geography as an Academic Discipline in South Africa, PhD Dissertation, University of the Western Cape, Bellville
- Wesso, H. and Parnells, S. 1992 Geography Education in South Africa: Colonial Roots and Prospects for Change, in Rogerson, C. and McCarthy, J. (eds) Geography in a Changing South Africa: Progress and Prospects, Oxford University Press, Cape Town.
- Wiërsma, W. 1991 Research Methods in Education, Allyn and Bacon, Boston.
- Wolf, F.R.M. 1988 Questionnaires, in Keeves, J.P. (ed) Educational Research, Methodology, and Measurement: An International Handbook, Pergamon, Oxford.

Wragg, E.C. 1973 A Study of Student Teachers in the Classroom, in Chanan, G. (ed) Towards a Science of Teaching, Slough, National Foundation for Educational Research.

Wragg, E.; Oates, J. and Gump, P. 1976 Classroom Interaction Open University, Milton Keynes.

APPENDIX 1

Joint Matriculation Board – Introduction to the Syllabus (1983)

INTRODUCTION TO THE SYLLABUS

CONTENTS	PAGE
1. PRINCIPLES ON WHICH THE SYLLABUS HAS BEEN BASED	2
1.1 Nature of Geography	
1.2 General education of the pupil	
2. OBJECTIVES	3
2.1 Knowledge	
2.2 Skills	
2.3 Perception	
2.4 Appraisal	
3. TEACHING GUIDELINES	6
3.1 Approaches	
3.2 Techniques	
3.3 Differentiation	
3.4 Evaluation	
4. EXAMINATIONS	9
5. SYLLABUS CONTENT	
● STANDARD 8	12
● STANDARD 9	15
● STANDARD 10	18

1. PRINCIPLES ON WHICH THE SYLLABUS IS BASED

1.1. Nature of Geography

Geography as a subject has many areas of overlap with other subjects in both the natural and the social fields of study. This syllabus takes into account the essential nature of Geography. It ensures that:

1.1.1 the four major traditions in Geography are upheld. These are:

- man-land relationships
- the spatial perspective
- the regional viewpoint
- the earth-science component.

1.1.2 a balance is maintained between Physical Geography and Human Geography

1.1.3 provision is made for both the theoretical and the practical aspects of the subject

1.1.4 sufficient flexibility exists to allow for the changing nature of the subject.

1.2 General education of the pupil

Education is concerned with the development of the 'whole being' and not merely with imparting knowledge.

1.2.1 The most important aims, in the long term, are for pupils to:

- acquire and develop intellectual skills and abilities which will promote on-going education
- adjust to a society that is undergoing rapid and far-reaching social, economic and political changes
- enter the world-of-work that is becoming increasingly more technologically orientated
- develop their moral and emotional (affective) attributes.

1.2.2 The teaching of Geography should neither be specifically vocationally orientated, nor entirely university orientated. The syllabus should provide for two groups of pupils:

- those who will receive no further instruction in the subject, and
- those who will continue with the study of Geography at a tertiary level.

1.2.3 Although the syllabus is divided into a Junior Secondary Phase and a Senior Secondary Phase, the two phases must be related, and must allow for the progressive development of geographical knowledge, skills and attitudes.

2. OBJECTIVES

- In lesson preparation teachers should bear in mind the higher abilities of comprehension, analysis, application, synthesis and evaluation.
- This subject should be taught in such a way that pupils develop an eagerness for further study and individual inquiry.
- Teachers should be aware of the contribution Geography is making to the general education of the pupil. It is this awareness that gives direction to day-to-day teaching.
- Objectives should be meaningful to pupils and teachers alike, and must constitute both realistic and achievable targets.
- The type and number of short-term objectives in Geography are numerous, and those selected for a lesson should be closely correlated with the nature of the subject matter and the resources available to the teacher.
- Objectives should be classified into four main categories:

2.1 Knowledge

2.1.1 Pupils should acquire a fundamental body of knowledge which is meaningful and useful to them and which can be applied and reproduced in whatever form is required.

- 2.1.2 Pupils should recognize the unity of knowledge through the links that Geography has with other subjects.

2.2. Skills

- 2.2.1 No list of skills can be complete. The following should, however, be kept in mind:

- The importance attached to different skills should be related to the abilities and maturity of the pupils.
- The development of skills should enable pupils to deal with knowledge in an organized manner.
- Pupils should gain proficiency in the use of skills through repetition and the application of these skills to new situations.

- 2.2.2 Geography makes a particular contribution to the following skills:

- Oracy and literacy: thinking logically, writing concisely, speaking with assurance and accuracy
- Numeracy: facility with simple statistical methods, graphs and tables
- Graphicacy: the ability to draw, read and interpret
- Interpretation: of pictures, photographs and maps
- Fieldwork techniques: using either the traditional (survey) or the scientific approach.

2.3 Perception

The way in which the environment is 'perceived' in relation to the 'actual' environment influences the pupil's concept of space (spatial conceptualization).

2.3.1 In order to heighten the pupils' perception of their environment, it is necessary for them to:

- recognize the relationships that exist between people and their environment
- identify spatial patterns, spatial relationships and interaction (This is closely linked with and understanding of location, distance and accessibility.)
- be aware of the underlying processes which act upon spatial patterns and relationships and which bring about change
- be aware of the world's place to place variety; to recognize the uniqueness of place.

2.3.2 Many studies require pupils to examine the spatial aspects of social and economic problems. Such studies provide opportunities for pupils to respond to problem-solving and decision-making situations through critical, divergent and creative thinking.

2.4 Appraisal

2.4.1 Studies in Geography should promote the formation and reinforcement of positive attitudes and values.

- This is an emotional objective, for, without appealing to the emotions and without sufficient motivation, learning seldom takes place.

2.4.2 Pupils need to develop a social awareness. This means that they are expected to:

- recognize the inter-dependence of man
- acquire a tolerant attitude towards others with different social, economic and political circumstances.

2.4.3 Pupils need to develop and environmental awareness. They need to feel a commitment towards the environment by developing a 'caring attitude'. This means they are expected to:

- recognize the need for conservation
- understand that the balance of nature is largely dependent on man's wise management of his environment

They should be aware of how man uses/abuses his environment, particularly the resources available to him; the options and constraints that are placed on his actions.

- realize that the quality of life is influenced by the aesthetic aspects of man's environment as well as by an appreciation of the grandeur and wonder of Creation.

3. TEACHING GUIDELINES

3.1 Teaching approaches

Teachers should make every effort to create effective learning experiences for their pupils. Whatever teaching approach is used, it is essential to develop a sense of reality in the teaching situation.

3.1.1 The holistic or global approach

- It is particularly important that the components of the syllabus be viewed as parts of a whole and not as isolated compartments of knowledge.
- The divisions of the syllabus should be regarded as a convenient means of grouping the characteristics of the individual components.
- Wherever possible, the relationship and interaction between components should be stressed.

3.1.2 The descriptive versus the problem-solving approach

- Although there is still room for some of the descriptive techniques of the old traditional Geography, emphasis should be given to a more problem-orientated approach.
- Pupils should gain insight into the process of decision-making by participation in exercises such as simulation games.

3.1.3 The systems approach

- It is recommended that teachers introduce the concept of systems into their teaching.
- Pupils should be aware that Geography encompasses the study of a very complex man-environmental ecosystem. This complex system is broken down into a number of sub-systems to facilitate its study.
- Several components of the syllabus could be taught as sub-systems such as those associated with weather, drainage and urban sub-systems.

3.1.4 The inter-disciplinary approach

- Concepts studies in Geography may overlap with those of other subjects such as Biology, Science, and Economics.
- Inter-disciplinary studies should form part of the broach teaching strategy. This will enhance the value of both the learning content and the learning objectives.

3.1.5 The scientific approach

- Pupils should be trained in the scientific method of inquiry (statement of hypothesis, followed by the collection and classification of information, and finally, the testing of the hypothesis).

3.2 Teaching techniques

It is recommended that, where appropriate, teachers should:

3.2.1 integrate the reading and analysis of photographs and maps with the relevant sections of the syllabus. This includes:

- photographs: vertical, oblique and horizontal (i.e. aerial and ordinary);
- maps: such as wall, atlas, topographic maps of Southern Africa (particularly the 1 : 50 000 SA series) and municipal maps of the local area.

- 3.2.2 ensure that pupils become competent in the use of various measuring instruments and other apparatus
- 3.2.3 make use of diagrammatic representation of statistics. For example, climatic figures, economic data and population characteristics can be illustrated by means of curves, columns, rectangles, circle segments, dots, colour, pictorial diagrams and isoline
- 3.2.4 introduce quantitative techniques such as means, deviations (range), simple correlations, scattergrams, regression lines and probabilities. Emphasis should be on understanding what the different techniques reflect. Complicated calculations and constructions need not be required
- 3.2.5 refer to models. These include:
- theoretical models (such as urban and economic models) which need to be tested against the real world. These enable geography to be studied by means of a more problem-orientated approach
 - physical models (such as globes, tellurions and paper-mâché / sand-tray models) which provide effective representations of the real world.
- 3.2.6 undertake well planned and meaningful fieldwork
- This includes: observation and measurement in the field; the recording and processing of data; the interpretation of written and graphical information.
- 3.2.7 encourage individual and group research techniques
- Pupils involvement, independent activity, initiative, creativity and independence should constantly be extended.
 - Pupils should learn to rely on personal observation in the field (primary source) and to make use of secondary sources such as: reference books, maps, photographs and diagrams; films, tapes and slides; as well as television, the radio and the press.

- Pupils need to develop worthwhile attitudes towards learning such as: respect for evidence; a critical appraisal of reporting; a suspicion of simplistic explanations, and a willingness to engage in rational discussion.
- Pupils need to distinguish between central issues of importance and peripheral issues.

NOTE: Pupils should undertake short independent study topics throughout the year on work related to the requirements of the syllabus.

3.3. Differentiation

- 3.3.1 Teachers should not expect the same amount and quality of work from all pupils. Differences in ability must be taken into account. However, each pupil can be expected to work at the highest possible level of his own ability.
- 3.3.2 Most of the topics studied are common to all grades. However, pupils in different grades will not be expected to study these in the same depth. The approach to, and the control of work for less able pupils should be more direct.

3.4 Evaluation

Evaluation is concerned with both:

- the measurement of pupil achievement, and
- the effectiveness of lesson preparation, class management and the achievement of lesson objectives.

4. EXAMINATIONS

- 4.1 There should be continuous evaluation for all standards.
- 4.2 Pupils in Stds 8 and 9 must write an internal examination at the end of each year.
- 4.3 A final public examination will be set at the end of the Std 10 year.

4.3.1 Although the examination will be set on the Std 10 syllabus, candidates will be expected to draw on their overall knowledge of concepts and skills developed in previous years.

4.3.2 This examination will consist of TWO papers:

PAPER 1: 1½ HOURS

- Compulsory questions on photo and map reading, analysis and interpretation will be set.
- The emphasis will be on interpretation, and questions will relate to aspects of Physical, Settlement and Regional Geography.

PAPER 2: 3 HOURS

- This paper will be divided into THREE sections.
- FOUR questions must be answered: ONE from each section and the FOURTH question may be chosen from sections A, B or C.
- Layout of paper for the Higher Grade and the Standard Grade:

SECTION A – PHYSICAL GEOGRAPHY
TWO questions set, at least ONE must be answered.

SECTION B – SETTLEMENT GEOGRAPHY
TWO questions set, at least ONE must be answered.

SECTION C – REGIONAL GEOGRAPHY
THREE questions set, at least ONE must be answered.

- COMBINED questions may be set in each section; for example, a question in section A may comprise the Geomorphology, Ecology and Climatology components.

- **HIGHER GRADE:** Questions may either be **SYSTEMATIC** or of the **COMPOSITE** variety. A composite question in one section (eg. Section A) may include aspects from one or both the other two sections (B and/or C), provided the marks allocated to aspects from other sections do not exceed 25% of the total marks for the question.
- **STANDARD GRADE:** emphasis should be on the **SYSTEMATIC** type of question.

4.4. Differentiation between Higher Grade and Standard Grade, for both internal and external papers, should be achieved through the type of questions set and on their mark allocation.

NOTE: Italicized statements in the SYLLABUS CONTENT are GUIDELINES suggesting an approach. These should allow for greater flexibility when teaching the subject.

APPENDIX 2

Department of Education and Training

Syllabus for Geography Standard 10

(Higher Grade) 1987

DEPARTMENT OF EDUCATION AND CULTURE

ADMINISTRATION: HOUSE OF ASSEMBLY

NATIONAL EXAMINATIONS

SYLLABUS

FOR

GEOGRAPHY

STANDARD 10

(HIGHER GRADE)

Date of Implementation: JANUARY 1987

Date of first examination: NOVEMBER 1987

Implemented by: DEPARTMENT OF EDUCATION AND TRAINING

A. AIMS WITH SYLLABUS**INTRODUCTION TO THE SYLLABUS****1. Principles on which the syllabus is based****1.1 Nature of Geography****1.2 General education of the pupil****2. Objectives****2.1 Knowledge****2.2 Skills****2.3 Perception****2.4 Appraisal****B. GENERAL REMARKS ON SYLLABUS****1. Teaching Guidelines****1.1 Approaches****1.2 Techniques****1.3 Differentiation****1.4 Evaluation****C. EXPOSITION OF SYLLABUS CONTENT****D. EVALUATION**

A. AIMS WITH SYLLABUS

INTRODUCTION TO THE SYLLABUS

1. Principles on which the syllabus has been based.

1.1 Nature of Geography

Geography as a subject has many areas of overlap with other subjects in both the natural and the social fields of study.. This syllabus takes into account the essential nature of Geography. It ensures that:

1.1.1 the four major traditions in Geography are upheld. These are:

- * man-land relationships
- * the spatial perspective
- * the regional viewpoint
- * the earth-science component.

1.1.2 a balance is maintained between Physical Geography and Human Geography

1.1.3 provision is made for both the theoretical and the practical aspects of the subject

1.1.4 sufficient flexibility exists to allow for the changing natures of the subject.

1.2 General education of the pupil

Education is concerned with the development of the "whole being" and not merely with imparting knowledge.

1.2.1 The most important aims, in the long term, are for the pupils to:

- * acquire and develop intellectual skills and abilities which will promote on-going education.
- * adjust to a society that is undergoing rapid and far-reaching social, economic and political changes
- * enter the world-of-work that is becoming increasingly more technologically orientated
- * develop their moral and emotional (affective) attributes.

1.2.2 The teaching of Geography should neither be specifically vocationally orientated, nor entirely university orientated. The syllabus should provide for two groups of pupils:

- * those who will receive no further instruction in the subject, and
- * those who will continue with the study of Geography at a tertiary level.

1.2.3 Although the syllabus is divided into a Junior Secondary Phase and a Senior Secondary Phase, the two phases must be related, and must allow for the progressive development of geographical knowledge, skills and attitudes.

2. Objectives

- * In lesson preparation teachers should bear in mind the higher abilities of comprehension, analysis, application, synthesis and evaluation.
- * This subject should be taught in such a way that pupils develop an eagerness for further study and individual inquiry.
- * Teachers should be aware of the contribution Geography is making to the general education of the pupil. It is this awareness that gives direction to day-to-day teaching.
- * Objectives should be meaningful to pupils and teachers alike, and must constitute both realistic and achievable targets.
- * The type and number of short-term objectives in Geography are numerous, and those selected for a lesson should be closely correlated with the nature of the subject matter and the resources available to the teacher.
- * Objectives can be classified into four main categories:

2.1 Knowledge

- 2.1.1 Pupils should acquire a fundamental body of knowledge which is meaningful and useful to them and which can be applied and reproduced in whatever form is required.
- 2.1.2 Pupils should recognize the unity of knowledge through the links that Geography has with other subjects.

2.2 Skills

2.2.1 No list of skills can be complete. The following should however, be kept in mind:

- * The importance attached to different skills should be related to the abilities and maturity of the pupils.
- * The development of skills should enable pupils to deal with knowledge in an organized manner.
- * Pupils should gain proficiency in the use of skills through repetition and the application of these skills to new situations.

2.2.2 Geography makes a particular contribution to the following skills:

- * Oracy and literacy: thinking logically, writing concisely, speaking with assurance and accuracy
- * Numeracy: facility with simple statistical methods, graphs and tables
- * Interpretation: of pictures, photographs and maps
- * Fieldwork techniques: using either the traditional (survey) or the scientific approach.

2.3 Perception

The way in which the environment is 'perceived' in relation to the 'actual' environment influences the pupil's concept of space (spatial conceptualization).

2.3.1 In order to heighten the pupils' perception of their environment, it is necessary for them to:

- * recognize the relationships that exist between people and their environment
- * identify spatial patterns, spatial relationships and interaction. (This is closely linked with an understanding of location, distance and accessibility)

- * be aware of the underlying processes which act upon spatial patterns and relationships and which bring about change.

- * be aware of the world's place to place variety; to recognize the uniqueness of place.

2.3.2 Many studies require pupils to examine the spatial aspects of social and economic problems. Such studies provide opportunities for pupils to respond to problem-solving and decision-making situations through critical divergent and creative thinking.

2.4 Appraisal

2.4.1 Studies in Geography should promote the formation and reinforcement of positive attitudes and values.

- * This is an emotional objective, for, without appealing to the emotions and without sufficient motivation, learning seldom takes place.

2.4.2 Pupils need to develop a social awareness. This means that they are expected to:

- * recognize the inter-dependence of man

- * acquire a tolerant attitude towards others with different social, economic and political circumstances

2.4.3 Pupils need to develop an environmental awareness. They need to feel a commitment towards the environment by developing a 'caring attitude'. This means they are expected to:

- * recognize the need for conservation

- * understand that the balance of nature is largely dependent on man's wise management of his environment

- * They should be aware of how man uses/abuses his environment, particularly the resources available to him; the options and constraints that are placed on his actions

- * realize that the quality of life is influenced by the aesthetic aspects of man's environment as well as by appreciation of the grandeur and wonder of Creation.

B. GENERAL REMARKS ON SYLLABUS

1. Teaching Guidelines

1.1 Teaching approaches

Teachers should make every effort to create effective learning experiences for their pupils. Whatever teaching approach is used, it is essential to develop a sense of reality in the teaching situation.

1.1.1 The holistic or global approach

- * It is particularly important that the components of the syllabus be viewed as parts of a whole and not as isolated compartments of knowledge.
- * The divisions of the syllabus should be regarded as a convenient means of grouping the characteristics of the individual components.
- * Wherever possible, the relationship and interaction between components should be stressed.

1.1.2 The descriptive versus the problem-solving approach

- * Although there is still room for some of the descriptive techniques of the old traditional Geography, emphasis should be given to a more problem-orientated approach.
- * Pupils should gain insight into the process of decision-making by participating in exercises such as simulation games.

1.1.2 The Systems approach

- * It is recommended that teachers introduce the concept of systems into their teaching.
- * Pupils should be aware that Geography encompasses the study of a very complex man-environmental ecosystem. This complex system is broken down into a number of sub-systems to facilitate its study.
- * Several components of the syllabus could be taught as systems such as those associated with weather, drainage and urban sub-systems.

1.1.4 The inter-disciplinary approach

- * Concepts studies in Geography may overlap with those of other subjects such as Biology, Science and Economics
- * Inter-disciplinary studies should form part of the broad teaching strategy. This will enhance the value of both the learning content and the learning objectives.

1.1.5 The scientific approach

- * Pupils should be trained in the scientific method of inquiry (statement of hypothesis, followed by the collection and classification of information and finally, the testing of the hypothesis).

1.2 Teaching techniques

It is recommended that, where appropriate, teachers should:

1.2.1 integrate the reading and analysis of photographs and maps with the relevant sections of the syllabus. This includes:

- * photographs: vertical, oblique and horizontal (i.e. aerial and ordinary);
- * maps: such as wall, atlas, topographic maps of Southern Africa (particularly the 1 : 50 000 SA series) and municipal maps of the local area.

1.2.2 ensure that pupils become competent in the use of various measuring instruments and other apparatus.

1.2.3 make use of diagrammatic representation of statistics. For example, climatic figures, economic data and population characteristics can be illustrated by means of curves, columns, rectangles, circle segments, dots, colour, pictorial diagrams and isolines.

1.2.4 introduce quantitative techniques such as means, deviations (range), simple correlations, scattergrams, regression lines and probabilities. Emphasis should be on understanding what the different techniques reflect. Complicated calculations and constructions need not be required.

1.2.5 refer to models. These include:

- 1.3.2 Most of the topics studied are common to all grades. However, pupils in different grades will not be expected to study these in the same depth. The approach to, and the control of work for less able pupils should be more direct.

1.4 Evaluation

Evaluation is concerned with both:

- * the measurement of pupil achievement, and
- * the effectiveness of lesson preparation, class management and the achievement of lesson objectives.

C. EXPOSITION OF SYLLABUS CONTENT

(12)

1. General Geographic Techniques

- * Continuation of work done in Stds 8 and 9
- * Wherever possible, the application of maps, aerial photographs and quantitative techniques (including graphical representation) should be integrated with relevant sections of the syllabus.
- * Well planned and meaningful fieldwork should be undertaken, whenever possible. The scientific method should be applied.

1.1 Reading, analysis and interpretation of aerial (oblique and vertical) photographs

1.2 Reading, analysis and interpretation of 1 : 50 000 topographic maps of south Africa.

2. Climatology

(30)

- * Synoptic charts should be used.
- * Relevant concepts learnt in Stds 8 and 9 should be applied.

2.1 Mid-latitude and tropical cyclones

Growth, decay and associated weather; consequences

- * These should be studied on a global scale

2.2 Weather and climatic explanations.

2.2.1 Regional Scale

Travelling disturbances and anticyclonic circulation and their effect on weather patterns in Southern Africa

2.2.2 Local Scale

Valley climates and city climates

* Use Southern African examples where possible.

3. Geomorphology

35

In this section attention should be given to:

- * the drawing and interpretation of cross-sections and profiles
- * the use and interpretation of topographic maps and aerial photographs
- * well planned and meaningful fieldwork, where possible.

3.1 Drainage basins; long- and cross-profiles; stream channel characteristics; flow characteristics (normal and abnormal); river capture; superimposed and antecedent streams

3.2 Topography associated with: horizontal and inclined strata; massive igneous rocks

3.3 Slope characteristics

3.4 Landscape evolution

* Cyclic explanation (peneplanation and pediplanation)

* Non-cyclic explanation (dynamic equilibrium)

4. Ecosystems, Environmental Balance and Conservation

15

- * Relate to South Africa (Section 6.1.1)

4.1 Soils

Soil profile; soil forming factors

4.2 Concept of an ecosystem

4.3 Ecological processes: energy flow; nutrient cycling; self-regulation

4.4 Human impact on the ecosystem: imbalance of the ecosystem;; environmental conservation and management

5. Settlement Geography

35

* Where possible, meaningful fieldwork should be undertaken. The scientific method should be applied.

* General patterns as well as deviations should be indicated so as to present a global view.

* South African examples should be used, where appropriate

5.1 Rural settlement

5.1.1 Definition and function

5.1.2 Types: nucleated and dispersed

5.1.3 Factors influencing site, situation and form

5.1.4 Depopulation of rural areas

5.1.5 Development strategies for rural areas

* e.g. basic needs philosophy

5.1.6 Planning for rural areas

5.2 Urban settlement

5.2.1 Processes and characteristics of urbanization

* Should be done in a comparative context to present a global view

5.2.2 Factors influencing the following: site and function; situation

5.2.3 Distribution of urban centres

* should include concepts of central places: spheres of influence; threshold and range of services; urban hierarchies

5.2.4 Land-use zones (including the rural-urban fringe)

- * Should be considered in terms of underlying forces and processes

- * Concept of urban models should be applied

5.2.5 Urban morphology

5.2.6 Urban problems and possible solutions

5.2.7 Planning improved urban environments

6. Regional Geography

6.1 The Republic of South Africa

- * Pupils should be familiar with DISTRIBUTION MAPS, which form an integral part of the regional course, such as political divisions; chief towns and transportation routes; relief and drainage; major climatic regions

- * Extensive use should be made of the atlas.

6.1.1 Environmental problems and possible solutions

- * This should include reference to droughts and floods; soil erosion; vegetation imbalance; pollution; wildlife extinction.

- * The concepts of ecosystems and environmental balance should be applied. (Refer to Section 4 of the Std 10 syllabus).

6.1.2 Population

Density, distribution, composition, growth and movement.

6.1.3 The economy

- * Relevant concepts studied in Std 9 should be applied.

6.1.3.1 Contribution to the gross domestic product (G.D.P.) by the primary, secondary and tertiary sectors.

6.1.3.2 Primary activities

The role of agriculture and mining with regard to factors which promote or hinder development.

6.1.3.3 Secondary activities

The PWV complex and ONE other major industrial region (Durban - Pinetown; South Western Cape; Port Elizabeth - Uitenhage).

- * Attention should be given to problems and possible solutions.
- * Reference should be made to the other major industrial regions.

6.1.3.4 Tertiary activities

The position of the RSA in the world trade system

- * Refer to the balance of payments.

6.1.3.5 Economic development

- * Attention should be given to concepts of centralization and decentralization including border industries and growth points.
- * Reference to spatial models of economic growth could be made to place these developments in a global perspective.

6.2 South West Africa (Namibia) OR ONE Independent State

6.2.1 Factors influencing economic development

6.2.2 Economic links with the RSA

D EVALUATION

60

1. EXAMINATIONS

- 1.1 There should be continuous evaluation for all standards.
- 1.2 A final public examination will be set at the end of the Std 10 year.
 - 1.2.1 Although the examination will be set on the Std 10 syllabus, candidates will be expected to draw on their overall knowledge of concepts and skills developed in previous years.
 - 1.2.2 This examination will consist of TWO papers (400 marks).

PAPER 1: 1½ HOURS (80 MARKS).

- * Compulsory questions on photo and map reading, analysis and interpretation will be set.
- * The emphasis will be on interpretation, and questions will be related to aspects of Physical, Settlement and Regional Geography.

PAPER 2: 3 hours (320 marks).

- * This paper will be divided into THREE sections.
- * FOUR Questions must be answered. ONE from each section and the FOURTH question may be chosen from Section A, B or C.
- * Layout of paper for the Higher Grade and the Standard Grade:

SECTION A PHYSICAL GEOGRAPHY

TWO questions set, at least ONE must be answered.

SECTION B SETTLEMENT GEOGRAPHY

TWO questions set, at least ONE must be answered.

SECTION C REGIONAL GEOGRAPHY

THREE questions set, at least ONE must be answered.

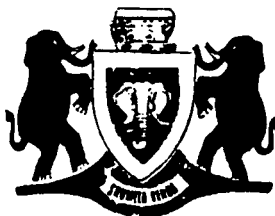
- * COMBINED questions may be set in each section; for example, a question in section A may comprise the Geomorphology, Ecology and Climatology components.
- * HIGHER GRADE: Questions may either be SYSTEMATIC or the COMPOSITE variety. A composite question in one section (e.g. Section A) may include aspects from one or both the other TWO sections (B and/or C), provided the marks allocated to aspects from other sections do not exceed 25% of the total marks for the question.
- * STANDARD GRADE: emphasis should be on the systematic type of question.

- 1.3 Differentiation between Higher Grade and Standard Grade, for both internal and external papers, should be achieved through the type of questions set and on their mark allocation.

APPENDIX 3

Letter of Approval from the Venda Education Department

REPUBLIC OF VENDA



REPUBLIEK VAN VENDA

RIPHABULIKI YA VENDA

MUHASHO WA PFUNZO NA MVELELE
DEPARTMENT OF EDUCATION AND CULTURE
DEPARTEMENT VAN ONDERWYS EN KULTUUR

PRIVATE BAG
Privaatsak x 2250
SIBASA
Venda

Diresi ya thelegrafu
Telegraphic address "PFUNZO"
Telegrafiese adres

Nomborondaula

Reference No:

Verwysings nr.: 0111546

Hu vhudziswa:

Enquiries: CES (0)

Navrae:

29 SEP 1992

Tel. No. (015581) 3-1001

Fax No. (015581) 3-1179

Mr A.M. Rambuda
P.O. Tshidimbini
VENDA

PERMISSION TO UNDERTAKE RESEARCH IN SECONDARY SCHOOLS IN VENDA.

1. Your letter dated 6 August 1992 refers.
2. Permission is hereby granted for Mr Rambuda to do research in Venda secondary schools as requested in your letter.
3. It is important for Mr Rambuda to contact the Area Managers under whose jurisdiction the schools he intends visiting fall. This must be done prior to his visits.

J. H. H. H. H.
DIRECTOR GENERAL FOR EDUCATION AND CULTURE
/mnm

APPENDIX 4

Geography Teacher Questionnaire

GEOGRAPHY TEACHER QUESTIONNAIRE

The purpose of this questionnaire is to gain information about the teaching styles used by geography teachers. An interactive teaching style can briefly be described as the manner in which teachers talk and interrelate to students during the learning process. The survey, which has the approval of the Venda Education Department, will form an important part of an MEd dissertation at the University of Cape Town.

The researcher will be grateful for your response and wishes to ensure you that your response will remain completely anonymous.

Kindly answer each question by ticking (✓) the appropriate response.

For example:

Male	<input type="checkbox"/>
Female	<input checked="" type="checkbox"/>

Thank you for your co-operation

PART ONE

Personal Data:

1. Gender:

Male	<input type="checkbox"/>
Female	<input type="checkbox"/>

2. Qualifications:

PhD	<input type="checkbox"/>
Masters	<input type="checkbox"/>
Bachelors	<input type="checkbox"/>
Professional Teacher's Diploma	<input type="checkbox"/>
No formal qualification	<input type="checkbox"/>

3. Teaching position:

Principal	
Head of Dept.	
Teacher	

4. Number of years spent in teacher training (tertiary):

University	1 Year		2 Years		3 Years		More years	
College	1 Year		2 Years		3 Years		More years	

5. How many years of tertiary geography education have you had:

1 Year	
2 Years	
3 Years	
4 Years	
More years	

6. Did you take geography as a school subject to matric level?

Yes		No	
-----	--	----	--

7. What is the highest standard to which you have taught secondary school geography?

Std 6	
Std 7	
Std 8	
Std 9	
Std 10	

8. Teaching experience in years:

Probationary year	
1 Year	
2 Years	
3 Years	
4 Years	
5 Years	
More years	

PART TWO

A: The geography classroom:

Please circle the appropriate word in the categories:

Often		Seldom		Never	
-------	--	--------	--	-------	--

1. Do your students decide for themselves where they sit in the classroom?

Often		Seldom		Never	
-------	--	--------	--	-------	--

2. Are the seats usually arranged so that the students sit:

(a) in individual chairs or desks;

Often		Seldom		Never	
-------	--	--------	--	-------	--

(b) in pairs;

Often		Seldom		Never	
-------	--	--------	--	-------	--

(c) in groups of 3 or more?

Often		Seldom		Never	
-------	--	--------	--	-------	--

3. If you use groupwork as a teaching strategy, how are students put into the various groups?

according to ability	
random selection	
convenience (ie. nearest students group together)	

4. How frequently is groupwork used?

Often		Seldom		Never	
-------	--	--------	--	-------	--

B: Classroom organisation

5. Are your students allowed to move around the classroom during group discussions and activities?

Often		Seldom		Never	
-------	--	--------	--	-------	--

6. Do you allow your students to talk to each other...

(a) whenever they wish?

Often		Seldom		Never	
-------	--	--------	--	-------	--

(b) only during certain activities?

Often		Seldom		Never	
-------	--	--------	--	-------	--

7. Do you expect your students to ask your permission before leaving the room?

Often		Seldom		Never	
-------	--	--------	--	-------	--

8. Do you expect your students to be quiet when you are directing a lesson?

Often		Seldom		Never	
-------	--	--------	--	-------	--

9. Do you appoint students to do certain responsible tasks in the class?

Often		Seldom		Never	
-------	--	--------	--	-------	--

C: Organisation of the curriculum

10. How regularly do you take students out of school as part of your normal teaching activities (e.g. fieldwork, observation)?

Often		Seldom		Never	
-------	--	--------	--	-------	--

11. If your school has a library, how often do you use the library as part of the geography lesson?

Often		Seldom		Never	
-------	--	--------	--	-------	--

12. How often do you use the following teaching resources?

	Often	Seldom	Never
Textbooks			
Wall maps			
Atlases			
Photographs			
Pictures			
Films			
Slides			
Sound tapes			
Video films			
Newspapers			
Magazines			
Other (please specify) _____			

D: Interaction analysis

13. On average, what percentage of teaching time do you devote to:

talking to the class as a whole	
students working in groups on work assigned by the teacher	
students working in groups on work of their own choice	
students working individually on work assigned by the teacher	
students working individually on work of their own choice	
TOTAL :	100%

14. Please respond to the following questions by ticking (✓) the appropriate category:

(a) Do you identify the feelings of the students?

Often	<input type="checkbox"/>	Seldom	<input type="checkbox"/>	Never	<input type="checkbox"/>
-------	--------------------------	--------	--------------------------	-------	--------------------------

(b) Do you give praise and encouragement to your students?

Often	<input type="checkbox"/>	Seldom	<input type="checkbox"/>	Never	<input type="checkbox"/>
-------	--------------------------	--------	--------------------------	-------	--------------------------

(c) Are you willing to accept and use the ideas of your students?

Often	<input type="checkbox"/>	Seldom	<input type="checkbox"/>	Never	<input type="checkbox"/>
-------	--------------------------	--------	--------------------------	-------	--------------------------

(d) Do you regularly ask questions to your students?

Often	<input type="checkbox"/>	Seldom	<input type="checkbox"/>	Never	<input type="checkbox"/>
-------	--------------------------	--------	--------------------------	-------	--------------------------

(e) Do you lecture to your students?

Often	<input type="checkbox"/>	Seldom	<input type="checkbox"/>	Never	<input type="checkbox"/>
-------	--------------------------	--------	--------------------------	-------	--------------------------

(f) Do you give instructions and directions to your students?

Often	<input type="checkbox"/>	Seldom	<input type="checkbox"/>	Never	<input type="checkbox"/>
-------	--------------------------	--------	--------------------------	-------	--------------------------

(g) Do you use criticism as a means of controlling student behaviour?

Often	<input type="checkbox"/>	Seldom	<input type="checkbox"/>	Never	<input type="checkbox"/>
-------	--------------------------	--------	--------------------------	-------	--------------------------

(h) Do you encourage your students to initiate talk during your lessons?

Often	<input type="checkbox"/>	Seldom	<input type="checkbox"/>	Never	<input type="checkbox"/>
-------	--------------------------	--------	--------------------------	-------	--------------------------

(i) Are there often noticeable periods of silence during a class lesson?

Often	<input type="checkbox"/>	Seldom	<input type="checkbox"/>	Never	<input type="checkbox"/>
-------	--------------------------	--------	--------------------------	-------	--------------------------

E: Discipline

In dealing with behaviour modification, what is the frequency of disciplinary techniques which you apply:

Often Seldom Never

Giving extra work			
Ignoring disruptive behaviour			
Praising appropriate behaviour			
Counselling students (individuals or as a group)			
Reprimanding students			
Making students pay or repair damages caused			
Extending the lesson into break times			
Contacting the parents			
Isolating a disruptive student			
Sending the student to the office for discipline			
Encouraging the student to behave correctly			
Walking out of the classroom			
Stopping the lesson and asking students to do their own work			
Other means (please specify): _____			

PART THREE

Teaching Methods in Geography Education

1. A teaching methodology which encourages students to investigate issues and problems in the environment should constitute a significant part of a geography teacher's strategy.

Strongly agree		Agree		Disagree		Strongly disagree	
----------------	--	-------	--	----------	--	-------------------	--

2. A geography teacher should play a low-key role in directing the learning experience of students.

Strongly agree		Agree		Disagree		Strongly disagree	
----------------	--	-------	--	----------	--	-------------------	--

3. Geography teaching should place greater emphasis on discovery learning or free exploration by the student.

Strongly agree		Agree		Disagree		Strongly disagree	
----------------	--	-------	--	----------	--	-------------------	--

4. Geography students should be given the opportunity to become active participants in the learning process.

Strongly agree		Agree		Disagree		Strongly disagree	
----------------	--	-------	--	----------	--	-------------------	--

5. Students working in groups waste a lot of time arguing and "messaging about".

Strongly agree		Agree		Disagree		Strongly disagree	
----------------	--	-------	--	----------	--	-------------------	--

6. Interactive teaching methods are fine in theory, but are not practicable in reality.

Strongly agree		Agree		Disagree		Strongly disagree	
----------------	--	-------	--	----------	--	-------------------	--

7. What difficulties do you experience in developing an interactive teaching style?

THANK YOU FOR YOUR CO-OPERATION

If you have an queries regarding this study or would like to participate in the research, please contact the researcher:

Mr Melvin Rambuda,
P.O. Tshidimbini,
Sibasa
VENDA

Tel: VHUFULI 1412

APPENDIX 5

FIAC Observation Schedule

School _____

Teacher _____

Class _____

Subject _____

Date _____

Observer _____

Lesson (1st, 2nd, etc.) _____

TALLY ACROSS

- 1 accepts feelings
- 2 praise
- 3 accepts ideas
- 4 question
- 5 lecture
- 6 command
- 7 criticism

- 8 solicited
9 unsolicited

- 10 silence

[illegible]

APPENDIX 6

Department of Education and Training
Syllabus for Geography Standards 9
and 10 (Higher and Standard Grade)
Reprinted 1981



REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF EDUCATION AND TRAINING

EMUMU
SECONDARY SCHOOL
1980-05-11
P.O. Box 104 TEL. 5
TSHAKHUMA — VENDA

SYLLABUS

FOR

GEOGRAPHY

STANDARDS 9 AND 10

(HIGHER AND STANDARD GRADE)

REPRINTED

1981

SYLLABUSFORGEOGRAPHYSTANDARDS 9 AND 10(HIGHER AND STANDARD GRADE)A. AIM1. GENERAL AIMS

- (a) To develop an understanding of the interplay of phenomena which give distinctive character to places

The interaction of the phenomena of climate, structure, soils and natural resources with varying levels of technological development results in widely diverse patterns of land use, economics and standards of living of the world's peoples.

- (b) To develop an awareness of the world's place-to-place variety

The differences in the physical setting and the social patterns of people give variety to places. One of Geography's chief virtues as a school subject in bringing out these differences is to help pupils to realise that various culture groups can make different uses of much the same set of factors in the physical environment.

- (c) To draw attention to unity and diversity in the world, and the resultant interdependence of regions and nations

Unity and diversity in such matters as political ideologies, religious beliefs, cultural norms and economic interests have resulted in the groupings of nations - the West, Afro-Asian Bloc, Islam, the European Economic Community etc.

- (d) To develop intellectual aptitudes and awaken "geographical curiosity"

The diversity of interests covered by the subject provides opportunities for the stimulation of pupils of widely differing intellectual aptitudes.

All have something to contribute to the synthesis of geographical observation and reasoning which culminates in the regional study.

- (e) To stress the unity of knowledge through the links Geography has with other subjects

Geography draws much of its material in the systematic branches of the subject from the physical, biological and human sciences. It is necessary for pupils to acquire a working knowledge of some of these to be able to cope with the geographical studies of this syllabus.

- (f) To develop a sense of reality in the minds of pupils in all their geographical work

The sense of reality comes from exposing pupils directly and personally to geographical stimuli as often as possible through outdoor work and excursions - through active involvement in learning situations.

- (g) To develop tolerance of attitudes by assisting pupils to recognise and understand the problems of their own and other countries, and how local circumstances can influence man's ways of life

(i) Fairgrieve's (1926) well-known passages could be quoted here:

- (1) "The function of geography is to train future citizens to imagine accurately the conditions of the great world stage and so help them to think sanely about political and social problems in the world around."
- (2) "Better than most subjects, because it has a warmth of sympathy tempered by dispassionate accuracy, is geography fitted to the promotion of goodwill throughout the world."

(ii) It is doubtful whether international understanding can be taught directly - "it should arise from the pupils' accurate knowledge and critical appraisal of geographical facts."

(Cons and Honeybone, 1960)

- (h) To draw attention to the often crucial problems which mankind must face to provide for increasing population numbers and higher living standards

Geography is not relevant in modern education if it does not make pupils aware of the grave problems of human survival which will confront mankind in the 21st Century. The provision of food for a rapidly increasing population when, even now, one third of the world's people are hungry; the task of disposing of the enormous quantities of waste materials man leaves in his wake; the vital need for one generation to pass on an environment fit and safe for the next to inherit; the conservation of the earth's dwindling finite resources - these and more can easily be overlooked in our country where the problems are at present not having any serious impact on our daily lives, but will inevitably assume greater importance in the future.

- (i) To lead pupils to an appreciation of the vastness and wonder of Creation.

2. SPECIFIC AIMS

- (a) To develop a sense of discovery in the acquisition of geographical knowledge.
- (b) To awaken pupils to the possibility of applying geographical knowledge to projects designed to secure better use of the earth's resources.
- (c) "To teach geography as an applied science".

(Unesco, 1965)

- (d) To acquire a basic geographical vocabulary which will assist pupils to write explanations clearly, correctly and precisely.
- (e) To help pupils to understand the more important geographical concepts and to supply them with an adequate body of ordered facts.
- (f) To develop competency and skill in the use and interpretation of maps, aerial photographs and other basic "tools".
- (g) To train pupils in the simpler techniques of geographical field-work and reporting.

- (h) To equip pupils for self-inquiry and further study.
- (i) To train pupils:
 - (i) "to interpret the facts of distribution
 - (ii) to correlate the life of man with his physical environment
 - (iii) to explain the interaction of human and natural agencies."

(Debenham, 1950)
- (j) "To teach pupils to observe and think geographically".

(Unesco, 1965)

3. DIFFERENTIATED AIMS

- (a) Between Higher Grade and Standard Grade in Stds 8, 9 and 10, there is no differentiation in either General or Specific Aims.
 Differentiation lies in the advocated approach and evaluation techniques. There is not such a profound difference in ability between the two groups that the Standard Grade pupil would find it impossible to attain the aims as set out in 1 and 2, even though these are more specifically concerned with pupils who follow the Higher Grade course.
- (b) It is desirable that all Senior Secondary pupils electing to study Geography at either grade should do so under a common set of aims, since no South African university insists on Geography at Higher Grade as a prerequisite for entry to a Geography I Course.

"The need, then, is not simply for more geography; it is for better geography, for geography relevant to the world of news headlines, world politics, international trade, the population explosion and the other key issues of the real world."

(Harper, R. 1967)

"Many of the world's fundamental problems - the growth and distribution of world population; the adequacy of food supplies; the significance and spread of disease; industrialisation and standards of living, for example - are essentially geographical in character and the geography teacher is in a unique position to help his pupils and the community."

(Cons and Honeybone, 1960)

REFERENCES

- | | |
|---|---|
| 1. Board of Education
(U.K.) 1942 | Handbook of Suggestions for Teachers
H.M.S.O. |
| 2. Cons, G.J. and Honeybone, R.C.
(1960) | Handbook for Geography Teachers
Methuen |
| 3. Debenham, F. (1950) | The use of Geography
English Univ. Press. |
| 4. Fairgrieve, J. (1926) | Geography in School
U. of London Press |
| 5. Harper, R.A. (1967) | Geography's Role in General Education
Tvl. Edu. News. March 1967 |
| 6. Unesco (1965) | Source Book for Geography Teaching
Longmans |

B. INTRODUCTION

1. SUGGESTIONS TO TEACHERS

(a) Methods

The close relationship between the stated aims of the Syllabus and the teaching approaches should be stressed. To be really effective, teaching methods should:

- (i) always be focused on the immediate aim of the lesson;
- (ii) take into account the nature of the subject matter presented;
- (iii) be adjusted to the scholastic level of the pupils with particular reference to the needs of differentiated education;
- (iv) stimulate and promote pupil participation, and contribute to the opening of wider horizons for the pupil;
- (v) be practically related to the pupils' experience of life wherever possible;
- (vi) make provision for regular supervision of pupils' work.

(b) Aids

The Department makes available a wide range of aids to assist geography teachers. Apart from the items listed in the Catalogue, all types of projection apparatus are provided, for which a rapidly increasing number of good locally-made films, filmstrips, colour slides and transparency sets is available. Senior Assistants are strongly recommended to ensure that their departments are adequately equipped with the aids and reference books necessary for these syllabuses - particularly where mapwork is concerned - and to allow their assistant teachers every possible opportunity for imaginative and original approaches in handling the subject. With the passing of "chalk and talk", and the provision of time for study in depth, there is no longer room for the dreary memorization of duplicated notes.

(c) The teacher

The day of the "chalk and talk" teacher has passed and the emphasis, particularly in these syllabuses, is away from the memorisation of the large body of facts of earlier syllabuses towards the understanding of concepts based on a smaller number of facts. The teacher becomes more the architect of meaningful learning situations with the ultimate goal of providing and managing most of the resources necessary for pupils to learn largely through their own initiative and efforts, but always under the guiding counsel of the teacher.

To be able to do justice to these syllabuses it is vital that teachers equip themselves properly in the academic sense. They are earnestly advised to consult the references listed in the Teachers' Bibliography at the end of this document, but more than that - to remain students and make it their dedicated task to keep themselves abreast of new developments in the subject. The Geography of the seventies cannot be taught with the Bachelor's Degree of the fifties.

2. EXPLANATORY NOTES FOR THE STANDARD 10 SYLLABUS

Refers to

Para. 1. (a) (i)

The term "model" means a diagram illustrating the relationship of factors such as pressure, temperature, humidity and air movement which produce certain atmospheric phenomena. These models

illustrate principles which have been sufficiently tested to show promise of being universal in application. The diagram of the water cycle in nature is an example of a model.

1. (a) (i) (1)

"Geostrophic flow" is the term given to the movement of air almost parallel to the isobars, at heights greater than about 700 metres above the surface, which occurs under the influence of the Coriolis force. At surface level, friction with the earth's surface tends to make air flow obliquely across the isobars from centres of higher pressure.

1. (a) (ii) (2) (bb)

A "heat island" is the region or "dome" of vertical temperature excess above an urban area caused by long-wave heat radiation from buildings, roads, the combustion of fuels, etc.

1. (b) (i)

"Grade" is the attainment by a stream of a bedslope just sufficient for the transportation of its sediment load under existing conditions. Swiftflowing mountain streams are not generally graded, neither are sluggish meandering rivers whose channels are clogged with sediment. It is possible for some parts of a river to be graded while other parts are not.

1. (b) (iv)

"Dynamic Equilibrium" is the steady state of balance in which every slope and form in a landscape is adjusted to every other. Different landforms are seen as being the results of varying bedrock characteristics and differences in the weathering and erosion processes acting on them.

A river valley, for example, which has attained the condition of dynamic equilibrium is characterised by slopes which are all adjusted to each other, with the rate of vertical and headward erosion matched to the rate of lateral erosion and all determined by the properties of the bedrock and the amount of energy available for erosion and transportation. If the available energy in the form of precipitation were to increase, the dynamic equilibrium would be upset by the greater vertical and headward erosion resulting from the increased water flow in the stream bed. The slopes of the valley sides would then have to re-adjust over a long span of time and the condition of dynamic equilibrium would not be attained again until the adjustment process was completed.

Another example of the disturbance of dynamic equilibrium in a river valley is shown by the effects of a river capture. The increased energy provided by the water of the captured stream causes rejuvenation of the capturing stream and initiates a series of adjustments to the new conditions. The most striking example of this in the Transvaal is to be found in the Groot Letaba Valley between Tzaneen and Haenertsburg.

(f) School Journey Service
600 Church Street (P.O. Box 2260)
PRETORIA

(g) The Planetarium
Yale Road
Milner Park
JOHANNESBURG

5. TEACHERS' BIBLIOGRAPHY

(a) Teaching Methods

BRIGGS, K.
Fieldwork in Urban Geography. Olivier, 1970.

GRAVES, N.J.
Geography in Secondary Education. Geographical Assn, 1971.

I.A.A.M.
The Teaching of Geography in Secondary Schools.
Cambridge U.P., 1967.

KOHN, C.F. (Ed.)
Selected Classroom Experiences. High School Geography Project.
Nat. Council for Geog. Educ., 1964.

(b) Cartography

AVERY, T.E.
Interpretation of Aerial Photographs; an introductory college
textbook and self-instruction manual. Burgess, 1962.

UPTON, W.B.
Landforms and Topographic Maps. Wiley, 1970.

(c) Climatology

BARRY R.G. and CHORLEY R.J.
Atmosphere, Weather and Climate. Methuen, 1968.

PETERSEN, S.
Introduction to Meteorology. McGraw Hill, 1969.

TYSON, P.D.
Atmospheric Circulation and Precipitation over South Africa
Dept. of Geography, Univ. of Witwatersrand, 1969.

(d) Economic Geography

HILL, O.
A Geography of Production. MacMillan, 1968.

MCCARTY, H.H. and LINDBERG, J.B.
A Preface to Economic Geography, Prentice-Hall, 1966.

(e) Geology

McIVER, J.R.
Gems, Minerals and Rocks of Southern Africa. MacDonald, 1966.

STOKES, W.L. and JUDSON, J.S.
Introduction to Geology; Physical and Historical.
Prentice-Hall, 1968.

(f) Geomorphology

BUNTING, B.T.
The Geography of Soil. Hutchinson, 1965.

KING, L.C.
South African Scenery. Olivier and Boyd, 1963.

NEL, A., CRAIG, J.K. et al
Fisiese Aardrykskunde vir Seniors. Perskor, 1966.

THORNBURY, W.D.
Principles of Geomorphology. Wiley, 1969.

(g) Human Geography

JAMES, P.E.
A Geography of Man. Ginn, 1959.

(h) Oceanography

KING, C.A.M.
Oceanography for Geographers. Arnold, 1962.

(i) Population Geography

GRIFFIN, P.F. (Ed.)
Geography of Population - A Teacher's Guide. Fearon Publishers, 1969.

(j) Quantitative Methods

COLE, J.P. and KING, C.A.M.
Quantitative Geography. Wiley, 1969.

SAUVAIN, P.A.
Advanced Techniques and Statistics. Hulton, 1972.

(k) Regional Geography

PRITCHARD, J.M.
Africa: A Study Geography for Advanced Students. Longmans, 1971.

Asia:

STAMP, L.D.
Asia: A Regional and Economic Study. Dutton, 1862.

Australasia:

ROBINSON, K.W.
Australia, New Zealand and the Southwest Pacific. London House and Maxwell, 1962.

Europe:

BEDDIS, R.A.
Europe and the Soviet Union. Univ. Lond Press, 1971.

COGHILL, I.G.
Western Europe: Geographical Studies. Warne, 1971.

WATSON, J.W. and SISSONS, J.B. (Eds.)
The British Isles; a Systematic Geography. Nelson, 1964.

South Africa:

AFRICA INSTITUTE (Pretoria)
Botswana (1968), Malawi (1970).

SMIT, P.
Lesotho; A Geographical Study (1967). (English and Afrikaans).

ANDREWS, B.
A Guide to Swaziland. Winchester, 1970.

TALBOT, W.J.
The South Western Cape Province. S.A. Geographical Society, 1971
(P.O. Box 31201, Braamfontein, Tvl.).

WELLINGTON, J.H.
Southern Africa. Vols. I & II. Cambridge U.P., Vol. I 1955
Vol. II 1960

The Americas:

SHANAHAN, E.W.
South America. Methuen, 1963.

WATSON, J.W.
North America: its Countries and Regions. Longmans, 1963.

WHITE, C.L., FOSCUE, E.J. and MCKNIGHT, T.L.
Regional Geography of Anglo-America. Prentice-Hall, 1964.

(1) Settlement Geography

HOUSTON, J.
A Social Geography of Europe. Duckworth, 1966.

JOHNSON, J.H.
Urban Geography; an Introductory Analysis, Pergamon, 1967.

NEL, A. en VAN ZYL, J.A.
Stad en Dorp. Stellenbosch, 1962.

SMAILES, A.E.
The Geography of Towns. Hutchinson, 1960.

(m) General

S.A. GEOGRAPHICAL SOCIETY
The South African Geographical Journal. (Twice yearly) S.A.G.S.,
P.O. Box 31201, Braamfontein, Tvl.

STRAHLER, A.N.
Introduction to Physical Geography. Wiley, 1970.

TREWARTHA, G.T., ROBINSON and HAMMOND
Elements of Geography. (5th Ed.) McGraw Hill, 1970.

VERENIGING VIR AARDRYKSKUNDE-ONDERWYS
Tydskrif vir Aardrykskunde. (Tweemaal jaarliks). V.A.O.,
P/a Departement van Aardrykskunde, Univ. van Stellenbosch.

C. CONTENT

STANDARD 9

(HIGHER GRADE)

1. PHYSICAL GEOGRAPHY

(a) Climatology

(i) Atmospheric pressure: definition and representation as isobars at M.S.L. and contours of constant pressure surfaces (e.g. the 850 mb. pressure surface on synoptic charts), pressure gradients.

(ii) Relationships between pressure and wind (stress airflow parallel to the isobars and direction of movement). Oblique flow at a small angle across isobars in the friction layer is best considered under 1(a) (iv) (1).

(iii) General circulation of the atmosphere(1) Primary circulation

Meridional (N-S) section (tri-cellular arrangement - i.e. the Hadley, Ferrel and Polar cells); sub-tropical and polar highs, polar front, I.T.C.Z. (Intertropical Convergence Zone).

(2) Secondary circulations

Lows (depressions) and westerly waves (the occurrence of waves without a depression necessarily forming - the life cycle of a depression is not to be included here); tropical easterlies (formerly trades) and waves therein (these waves as the cause of weather disturbances); monsoons.

(3) Tertiary circulations

Land and sea breezes, katabatic flow (down-slope and down-valley air drainage), Chinook, Föhn and Berg winds, Mistral.

(iv) Weather processes

- (1) Causes of uplift: types of convergence i.e. air masses meeting directly (head-on) and indirectly (obliquely) frictional, slope (relief) frontal and convectional.
- (2) Thermal stability and instability (as related to vertical movement of air).
- (3) Convergence and instability as the cause of precipitation.

(v) Practical work

Interpretation of mean pressure, temperature and rainfall maps; introduction to synoptic charts (airflow patterns from pressure distributions).

(b) Oceanography

- (i) Relationship between atmospheric and oceanic circulations: important ocean currents and their effects.
- (ii) Basic causes and significance of tides.

(c) Geomorphology

- (i) Fluvial action: fluvial processes and landforms typical of fluvial erosion and deposition.
- (ii) Marine action and resultant landforms; coastal types and their significance.
- (iii) Solution processes and resultant landforms (karst geomorphology).
- (iv) Glaciation and resulting landforms.
- (v) Practical work

The identification, interpretation and sketching of relevant landforms from different scale topographic maps and photographs; well planned and meaningful fieldworks should be undertaken.

2. HUMAN GEOGRAPHY

(a) Economic Geography

- (i) Definitions: renewable and non-renewable resources, primary, secondary and tertiary economic activities.
- (ii) Primary activities
 - (1) Farming: commercial and subsistence. To include
 - (aa) mention of basic types: arable, pastoral, irrigation and plantation
 - (bb) study of world production of at least one of rice, maize and wheat
 - (2) Mining
 - (aa) basic economics of exploitation
 - (bb) study of world production of at least one of coal, petroleum and iron ore.
- (iii) Secondary activities
 - (1) Light and heavy industry.
 - (2) Factors favouring location of industry (to include sample study of South African iron and steel industry).
- (iv) Tertiary activities
Service industries, electricity, transportation and trade.
- (v) Stages of economic development - the concepts of
 - (1) Traditional Society (subsistence or weak agricultural economy).
 - (2) Pre-industrial societies (basically agricultural economy).
 - (3) Take-off stage (commencement of self-generating development).
 - (4) Industrial societies (more workers in industrial sector than any other, few in agriculture).
 - (5) Post-industrial societies (more workers in tertiary services than in industry).

3. REGIONAL GEOGRAPHY

- (a) A general regional study of ONE or more from each of the categories listed below with special reference to regional economic development:
(i.e. as related to their areal distribution and the national economy).
 - (i) Technologically advanced countries
 - (1) France
 - (2) United Kingdom
 - (3) U.S.S.R.
 - (4) U.S.A.
 - (5) Western Germany (Federal Republic of Germany)

(ii) Technologically less advanced countries

- (1) Chile
- (2) China
- (3) Kenya, Tanzania and Uganda
- (4) Nigeria
- (5) Mocambique and Angola

The studies must emphasize problems and contrasts within each country. Comparisons between countries chosen in 3(a)(i) and 3(a)(ii) must be stressed.

(b) Assignments

Two short individual research assignments, either

- (i) to broaden the study of the countries chosen for class study, or
- (ii) to study aspects of the regional economic development of a country listed in 3(a) not chosen for class study must be undertaken.

STANDARD 10

(HIGHER GRADE)

1. PHYSICAL GEOGRAPHY

(a) Climatology

(i) Some atmospheric models (refer to introduction)

- (1) Geostrophic flow - the air flow almost parallel to the isobars (refer to introduction).
- (2) The thunderstorm (including tornadoes).
- (3) The growth and decay of the mid-latitude cyclone and the weather associated therewith.
- (4) Tropical cyclones.

(ii) Climate explanation

(1) on a regional scale

- (aa) Equatorial Africa (I.T.C.Z. and its movements and thunderstorms).
- (bb) Southern Africa (travelling disturbances and effect of anticyclonic circulations).

(2) on a local scale

- (aa) Valley climates (effect of aspect, heating and cooling, local winds and temperature inversions, frost and fog).
- (bb) City climates (contrast between city and rural surroundings, temperature and radiation differences, characteristics of urban climates - increased fogs, air pollution, rainfall, heat islands (refer to introduction).

(iii) Practical work

Weather maps with special reference to South Africa.

(b) Geomorphology

- (i) Drainage basins, drainage patterns (e.g. dendritic, trellis, rectangular, radial, deranged), river capture; river profiles) (long profile and cross profile through the stream (channel) and grade - a state of equilibrium not to be confused with gradient (refer to introduction).
- (ii) Topography associated with horizontal and inclined strata (mesas, buttes, cuestras), massive igneous rocks (tors and domes).
- (iii) Slopes and slope forms (crest, free-face, talus, slope and pediment).
- (iv) Evaluation of landscapes
 - (1) Peneplanation and pediplanation.
 - (2) Concept of dynamic equilibrium - refer to introduction.
- (v) Soils
 - (1) Soil forming factors (interaction between parent material, climate, vegetation, time and relief).
 - (2) Soil erosion and conservation (leading to the concept of ecosystems and environmental balance).
- (vi) Practical work

The identification and interpretation of relevant landforms from topographic maps of different scales; the measurement of simple profiles by means of a suitable level - (e.g. a ruler and plumbline, Abney type, or Suunto slope - angle meter); simple landscape interpretation.

2. HUMAN GEOGRAPHY(a) Settlement Geography

- (i) Rural settlement
 - (1) Types - nucleated (including sub-types) and dispersed.
 - (2) Factors influencing location and form - crossroads, spring lines, fording points, rural service centres etc.
- (ii) Urban settlement
 - (1) Factors influencing the site, situation and functions of urban settlements.
 - (2) Urban morphology and land use zones.
 - (3) Models of urban structure (concentric, sector and multiple nuclei).
 - (4) Distribution of urban centres
 - (aa) spheres of influence as determined by road and rail traffic, newspaper circulation, administrative, cultural, health and marketing services

(bb) urban hierarchies

- (aaa) Primate Metropolitan Area (Johannesburg and the Witwatersrand).
- (bbb) Major Metropolitan Areas (Cape Town, Durban, Pretoria).
- (ccc) Metropolitan Areas (Bloemfontein, East London, Port Elizabeth, Kimberley, Pietermaritzburg).
- (ddd) Major Country Towns (e.g. Pietersburg, Nelspruit, Potchefstroom, Rustenburg etc.).
- (eee) Minor Country Towns (e.g. Heidelberg, Nylstroom, Sabie, Zeerust, etc.).
- (cc) Simple central place theory. (K. values will not be examined).
- (dd) Urban expansion (sprawl, ribbon development, conurbation and metropolitan regions).
- (ee) Urban problems (congestion, centralization, blight - urban decay, pollution and environmental despoilation).

(iii) Practical work

- (1) Interpretation of settlement types and morphology through topographical map analysis.
- (2) Urban land use mapping, interpretation of urban maps and photographs, transect studies.

3. REGIONAL GEOGRAPHY

(a) Republic of South Africa and Independent Black States within its borders, excluding Lesotho

(i) Physical background (briefly)

- (1) Physiography.
- (2) Climate (see 1(a)(ii)(1)).
- (3) Natural vegetation.

(ii) Water resources and some general resource problems

- (1) Distribution, conservation and use of water.
- (2) Conservation of resources, environmental resources (including pollution and soil erosion), effect of droughts.

(iii) Human background

- (1) Population: density and distribution, composition growth and movement (including rural depopulation).
- (2) Black Areas (Independent States and National States).

(iv) Economic activities

- (1) Definition of Gross Domestic Product (value of all final goods and services produced within the borders of a country in the course of a financial year).

(2) Contributions to South African Gross Domestic Product.

(aa) By primary activities

(aaa) The contribution of the agricultural sector in general. In addition, TWO of the following agricultural products must be studied: mealies, wheat, sugar, fruit, beef, dairy products, wool, forestry products. (Emphasis should be placed on the distribution, and on the physical, human and economic factors which influence the production of the commodities which are chosen).

(bbb) The contribution of the mining sector in general. In addition TWO of the following must be studied: gold, diamonds, coal, copper, iron ore. (Emphasis should be placed on the distribution, and on the physical human and economic factors which influence the production of the commodities which are chosen).

(bb) By secondary activities in general

In doing this a study of major industrial regions must be made

(aaa) Southern Transvaal (Pretoria-Witwatersrand-Vereeniging/Sasolburg).

(bbb) Durban-Pinetown.

(ccc) South Western Cape.

(ddd) Port Elizabeth-Uitenhage.

The factors influencing the location and development of manufacturing industries must be considered. Attention should also be given to urbanization, problems of industrial decentralisation, border industries and new growth areas.

(cc) By tertiary activities in general

In doing this the following must be considered:

(aaa) communications (stress the interrelationships between urban centres, communications and economic activities)

(bbb) electricity as a major service industry

(ccc) international trade

(b) South West Africa

In dealing with this section ONLY regional economic development and problems associated therewith must be noted.

4. MAP INTERPRETATION

Integrated map and photo analysis of specific areas covered by 1:50 000 map sheets of South Africa.

5. SUPPLEMENTARY WORK

(a) Research assignments: Two to be completed, topics to be approved by the teacher.

- (b) Well planned and meaningful fieldwork should be undertaken whenever possible.

D. EVALUATION

STANDARDS 9 AND 10

(HIGHER GRADE)

1. Standard 8 and 9 will be examined internally at the end of each year.
2. The final public examination will be set on the Standard 10 syllabus, but candidates will be expected to draw on their overall knowledge of geography in Paper I (mapwork and photo interpretation.)
3. The examination will consist of TWO papers:

Paper I - 1 hour

Paper II - 3 hours

4. Paper I

One compulsory question on map and photo interpretation will be set.

Paper II

The paper will be divided into 3 sections:

Seven questions will be set, four must be answered.

Section A Physical Geography. Two questions will be set.
(One question will be systematic, the other may be of the composite variety drawing on Regional and/or Human Geography). One question must be answered.

Section B Human Geography. Two questions will be set.
(One question will be systematic, the other may be of the composite variety drawing on Physical and/or Regional Geography). One question must be answered.

Section C Regional Geography. Three questions will be set.
One question must be answered.

The fourth question may be chosen from Sections A, B or C.

(STANDARD GRADE)

C. CONTENT

For the Standard Grade course the approach must be more direct, and self-activity methods should be used under more direct supervision by the teacher. Differentiation will be achieved primarily through the examination where the type of questions set will be more straightforward.

Although many of the topics studied are common to both grades, the Standard Grade pupils will not be expected to study these in the same depth.

STANDARD 9

(STANDARD GRADE)

1. PHYSICAL GEOGRAPHY

(a) Climatology

- (bb) study of world production of at least one of rice, maize and wheat

(2) Mining

- (aa) study of world production of at least one of coal, petroleum and iron ore

(ii) Secondary activities

- (1) Light and heavy industry.
- (2) Factors favouring location of industry (to include sample study of South African iron and steel industry).

(iii) Tertiary activities

Service industries, electricity, transportation and trade.

3. REGIONAL GEOGRAPHY

- (a) A general regional study of ONE or more from each of the categories listed below with special reference to regional economic development: (i.e. as related to their areal distribution and the national economy).

(i) Technologically advanced countries

- (1) France
- (2) United Kingdom
- (3) U.S.S.R.
- (4) U.S.A.
- (5) Western Germany (Federal Republic of Germany)

(ii) Technologically less advanced countries

- (1) Chile
- (2) China
- (3) Kenya, Tanzania and Uganda
- (4) Nigeria
- (5) Mocambique/Angola

The studies must emphasize problems and contrasts within each chosen country. Comparisons between countries chosen in 3(a) (i) and 3(a) (ii) must be stressed.

(b) Assignments

One short individual research assignment either

- (i) to broaden the study of the countries chosen for class study, or
- (ii) to study aspects of the regional economic development of a country listed in 3(a) not chosen for class study

must be undertaken.

STANDARD 10(STANDARD GRADE)1. PHYSICAL GEOGRAPHY(a) Climatology(i) The development of:

- (1) Thunderstorms.
- (2) Mid-latitude cyclones.
- (3) Tropical cyclones.

(ii) Climatic explanation(1) on a regional scale:

(aa) Southern Africa.

(2) on a local scale:

(aa) Valley climates.

(bb) City climates.

(iii) Practical work

Elementary weather maps with special reference to South Africa.

(b) Geomorphology

(i) Drainage basins, drainage patterns (e.g. dendritic, rectangular, radial) river capture.

(ii) Topography associated with horizontal and inclined strata (mesas, buttes, cuestras), massive igneous rocks (tors and domes).

(iii) Slopes and slope forms (crest, free-face, talus slope and pediment).

(iv) Soils

(1) Soil forming factors (interaction between parent material, climate, vegetation, time and relief).

(2) Soil erosion and conservation.

(3) Simple zonal types - formation under conditions of good drainage with prolonged action of climate and vegetation; pedalfere (leached, acid soils, e.g. podzols and latosols) and pedocals (alkaline, calciumrich soils, e.g. chernozems and desert soils)(4) Soil forming processes (interaction between parent material, climate and vegetation - passive (parent material, topography, time) and active (climate, biological activity)).

(5) Soil erosion and conservation.

(v) Practical work

The identification and interpretation of relevant landform from topographic maps of different scales; the measurement of simple profiles by means of a suitable level (e.g.

a ruler and plumbline, Abney type, or Suunto slope-angle meter); simple landscape interpretation.

2. HUMAN GEOGRAPHY

(a) Settlement Geography

(i) Rural settlement

- (1) Types - nucleated and dispersed.
- (2) Factors influencing location and form - crossroads, spring lines, fording points, rural service centres.

(ii) Urban settlement

- (1) Factors influencing the site, situation and functions of urban settlements.
- (2) Urban morphology and land use zones.
- (3) Urban expansion (sprawl, ribbon development).
- (4) Conurbation and metropolitan regions.
- (5) Urban problems (congestion, centralization, blight - urban decay, pollution and environmental despoilation).

(iii) Practical work

Identification of settlement types and morphology.

3. REGIONAL GEOGRAPHY

(a) Republic of South Africa and Independent Black States within its borders, excluding Lesotho

(i) Physical background: (briefly)

- (1) Physiography.
- (2) Climate (see 1(a)(ii)(1)).
- (3) Natural vegetation.

(ii) Water resources and some general resource problems

- (1) Distribution, conservation and use of water resources.
- (2) Conservation of resources, environmental despoilation (including pollution and soil erosion), effects of drought.

(iii) Human background

- (1) Population: density and distribution, composition, growth and movement.
- (2) Black Areas (Independent States and National States).

(iv) Economic activities

- (1) Definition of Gross Domestic Product (value of all final goods and services produced within the borders of a country in the course of a financial year).
- (2) Contributions to South African Gross Domestic Product:

(aa) By primary activities

(aaa) The contribution of the agricultural sector in general. In addition, ONE of the following agricultural products must be studied: mealies, wheat, sugar, fruit, beef, dairy products, wool, forestry products. (Emphasis should be placed on the distribution, and on the physical, human and economic factors which influence the production of the commodities which are chosen.)

(bbb) The contribution of the mining sector in general. In addition ONE of the following must be studied: gold, diamonds, coal, copper, iron ore. (Emphasis should be placed on the distribution, and on the physical, human and economic factors which influence the production of the commodities which are chosen.)

(bb) By secondary activities in general

In doing this a study of major industrial regions must be made

(aaa) Southern Transvaal (Pretoria-Witwatersrand-Vereeniging/Sasolburg).

(bbb) Durban-Pinetown.

(ccc) South Western Cape.

(ddd) Port Elizabeth-Uitenhage.

The factors influencing the location and development of manufacturing industries must be considered. Attention should also be given to problems of industrial decentralisation, border industries and new growth areas.

(cc) By tertiary activities in general

In doing this the following must be considered:

(aaa) Communications (stress the inter-relationships between urban centres, communications and economic activities).

(bbb) Electricity as a major service industry.

(b) South West Africa

In dealing with this section ONLY regional economic development and problems associated therewith must be noted.

4. MAP INTERPRETATION

Integrated map and photo analysis of specific areas covered by the 1:50 000 map sheets of South Africa.

5. SUPPLEMENTARY WORK

(a) Research assignment: ONE to be completed, topic to be approved by the teacher.

(b) Well planned and meaningful fieldwork should be undertaken whenever possible.

D. EVALUATION

1. Standards 8 and 9 will be examined internally at the end of each year.
2. The final public examination will be set on the Standard 10 syllabus, but candidates will be expected to draw on their overall knowledge of geography in Paper I (Mapwork and photo interpretation).

3. The examination will consist of TWO papers:

Paper I - 1 hour

Paper II - 3 hours

4. Paper I

One compulsory question on map and photo interpretation will be set.

Paper II

The paper will be divided into 3 sections.

Eight questions will be set, four must be answered.

Section A Physical Geography. Two questions will be set.
(One question will be systematic, the other may be of the composite variety drawing on Regional and/or Human Geography.) One question must be answered.

Section B Human Geography. Two questions will be set.
(One question will be systematic, the other may be of the composite variety drawing on Physical and/or Regional Geography). One question must be answered.

Section C Regional Geography. Four questions will be set.
One question must be answered.

The fourth question may be chosen from Sections A, B or C.

5. Note: As true differentiation will largely depend on the nature of the examination, it should be more direct and simpler than those set in the Higher Grade.

APPENDIX 7

A Letter for Permission to Undertake Research in Secondary Schools in Venda

UNIVERSITY OF CAPE TOWN



Department of Environmental and Geographical Science

University of Cape Town · Private Bag · Rondebosch 7700 · South Africa
Telephone: (021) 650-2873/4 · Telex: 5-22208
Fax: (021) 650-3791

6 August 1992

The Director
Department of Education
P/Bag X2250
Sibasa
Venda

Dear Sir

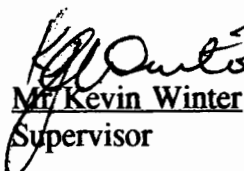
Re: Permission to undertake research in Secondary Schools in Venda

Mr Rambuda has had provision acceptance for a MEd dissertation at the University of Cape Town. Final acceptance will be given to Mr Rambuda after a small adjustment has been made to his research proposal. The research topic will attempt to identify teacher practices in geography education by establishing perceived and actual behaviour with specific attention given to teaching styles used in the classroom. Initially the research methodology will involve a questionnaire to establish the perceived interactive teaching styles. This will be followed by an analysis of the interactive processes in the classroom carried out by the researcher on two separate occasions. It is proposed that the initial questionnaire is sent to all secondary geography teachers in Venda, followed by two classroom visitations by the researcher to a sample of geography teachers.

Engaging teachers in the research process and the subsequent findings that this study might be extremely beneficial for teacher training and the development of geography education. With this in mind, and on behalf of Mr Rambuda, I would be grateful for your permission to undertake this study in secondary schools of Venda. Further details concerning the research and the logistics will be available by 30 September 1992.

We look forward to your response

Yours faithfully


Mr Kevin Winter MA(Lond)HDE
Supervisor

APPENDIX 8

The FLAC Model Matrix

APPENDIX 9

A Letter for Permission to Observe some Geography Lessons in Progress



Department of Environmental and Geographical Science

University of Cape Town · Private Bag · Rondebosch 7700 · South Africa
Telephone: (021) 650-2873/4 · Telex: 5-22208
Fax: (021) 650-3791

23 September 1992

To whom it may concern

Mr Melvin Rambuda is a MEd research student enrolled at the University of Cape Town. He is involved in a project which is attempting to describe and explain the geography teaching styles used in the classroom. As such, the project will provide interesting and useful information which could be of a supportive nature to geography teachers in general.

Mr Rambuda has received permission to undertake the study by the Venda Department of Education. We would be grateful if you would allow him to administer a questionnaire to the geography teachers in your school and to grant him permission to observe some geography lessons in progress

Your co-operation would be greatly appreciated

Yours faithfully

A handwritten signature in black ink, appearing to read 'Kevin Winter'.

Mr Kevin Winter MA(Lond)HDE
Supervising Lecturer

Contact address of the researcher:

Mr Melvin Rambuda
P.O. Tshidimbini
Sibasa
Venda

Tel: VHUFULI 1412